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Economics and Ritual in Sago Extraction in Tikopia. *By Raymond Firth, M.A., Ph.D., Professor of Anthropology, University of London.*

In Tikopia sago is an important economic resource. It is also the object of certain ritual procedures. Description of the economics and associated ritual gives ethnographic data which can be compared with the information from other Pacific cultures. The relation between these aspects also raises a theoretical problem that is worth analysis.

As a preface to the Tikopia data a short reference may be made to some samples of the utilization of sago in the Western Pacific generally.

Sago in the Western Pacific

The sago palm (genus *Metroxylon*) is fairly common in the western Pacific islands, but its economic potentialities in leaf, fruit and starch are not uniformly realized. Practically everywhere its leaves are used for thatch. In some parts, notably the Solomon Islands, the fruit is collected by natives and sold commercially as "ivory nuts." In some areas the starch granules of the trunk are not used for food; in some they are prepared only as slabs of pith without separation from the coarse fibres; in others they are separated from the fibres by processes of maceration and washing. The following references illustrate this.

In Fiji, where there are large groves of the palm, the natives were apparently unacquainted with the use of the starch for food until Seemann and Pritchard demonstrated it to them by extracting some.[1] In the Melanesian islands of the Eastern Solomons, apart from the sale of ivory nuts, the leaves are used for thatch. Occasionally, as in the Lau district of Malaita, whole sections of the solid pith are roasted and eaten in the summer at times of food shortage. But in Sa'a and Ulawa, in the south of the same island, sago is not eaten, and generally throughout the area no method of extraction of the starch is known.[2] In parts of the Western Solomons, as in the Shortland islands of Bougainville Straits, the starch is prepared by macerating, washing and sieving the pith. For this purpose long aqueducts of split areca trunk are built. The wet starch is baked into cakes but there is no

[1] B. Seemann, *Mission to Viti*, 1862, p. 291.

[2] C. M. Woodford, *A Naturalist Among Headhunters*, 1890, p. 201; W. Ivens, *Melanesians of the South-East Solomons*, 1927, p. 36. Mr. C. S. Belshaw informs me that sago is eaten from the pith in Nggela and San Cristoval.

preparation and storage of the flour.[3] In the Banks islands the starch is extracted and cooked in cakes, but was not, in former times at least, a common food.[4]

In many parts of New Guinea sago starch is extracted for food and the wet paste cooked, though again the flour is not dried and stored. Among the Mailu the pith is pounded out by men with stone-headed adzes and washed and kneaded by women who use as a receptacle the butt-end of the sago frond itself—the commonest technical device in the Western Pacific.[5] The people of the Purari and adjacent deltas rely to a great extent upon sago for food and extract it by scraping out the pith, beating it after pouring water over it, and sieving off the dross. This is the work of women. (Incidentally sago grubs from a decayed trunk are an important article of diet there.)[6] The Kiwai, Trans-Fly and Marind-Anim tribes prepare the pith by very similar means ; the Wiram and Keraki stamp or trample the pith in a bark bag and the Gambadi and Semariji beat it with a stick.[7] Data from many of the New Guinea tribes gives a similar picture.

Sago in Tikopia

The use of the sago palm (*rakau ota*) by the Tikopia is more extensive than by most other Western Pacific communities. From the fronds they make most of their thatch (Plate I, Fig. 1).[8] The ribs of the fronds (*fa ota*) are used for rafts (*vaka fa ota*), and for a kind of single-stick (*fetaaki*). The Tikopia have also fully realized the advantages of sago starch as food. By most of the peoples of the Western Pacific who use it the starch is pressed into cakes when wet, and baked. In this condition it tends to go sour and cannot be preserved for any great length of time. The Tikopia, however, employ two methods of preparation which render it more durable. As such it can be drawn upon to supplement other foods in times of shortage. It may also serve as provision in a compact form for overseas voyages. Hence one term for it is " food for voyaging " (*kai te forau*).

One method of preparation is to cook slabs of the pith for several days in a large oven.[9] The slabs are used especially in times of food shortage—as " food of the famine." This is an economical food since the pith is eaten whole, only the coarser fibres being rejected. This, however, is regarded as a somewhat unpalatable food. Another method is to prepare the starch as flour, dry it and store it in fibre bags. The flour is used in times of scarcity, but it

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[3] Woodford, *op. cit.*, pp. 199-201 ; H. B. Guppy, *The Solomon Islands*, 1887, pp. 83, 87, 90 ; C. Ribbe, *Zwei Jahre unter den Kannibalen der Salamo Inseln*, 1903, pp. 34-37, 45.

[4] R. H. Codrington, *The Melanesians*, 1891, p. 319.

[5] W. J. V. Saville, *In Unknown New Guinea*, 1926, pp. 89-93 ; B. Malinowski, " Natives of Mailu," *Proc. Roy. Soc. S. Australia*, XXXIX, 1915, pp. 598-600.

[6] F. E. Williams, *Natives of the Purari Delta*, 1924, pp. 10-11. For trade in sago from the Papuan Gulf, *vide* C. G. Seligmann, *Melanesians of British New Guinea*, 1910, pp. 96-110.

[7] G. Landtmann, *The Kiwai Papuans*, 1927, pp. 102 *et seq.* ; F. E. Williams, *Papuans of the Trans-Fly*, 1936, pp. 220, 422-424.

[8] The midrib (*te ngausala*) of the sago leaf is extracted to be used as a skewer. The leaf is then bent over a stick (*te rafo*), often shaped from areca timber, and a double hole is pierced through it with a wedge-ended wooden implement (*te suki*). While the *suki* is still in position the skewer is slipped under the flap raised in the leaf—as shown in the Plate. By a succession of these operations a sheet of thatch (*kau rau*) is formed.

[9] Raymond Firth, *Primitive Polynesian Economy*, 267. Codrington mentions that sago pith cooked whole was the main provision of canoes from Tikopia which visited the Banks islands one year during his residence there. *Op. cit.*, p. 320.

is also regarded as a delicacy (a food particularly for infants and old people). It is often used as an emollient to mix with other foods to give them body, flavour, and softness.

The sago palm is fairly plentiful in Tikopia. It grows sporadically on the lowlands and is especially abundant along the watercourses which lead down to the sea from the hill crest and in the swampy orchards on the inner side of the old crater wall near the lake. On the lands of some families, as that of the chief of the Taumako clan, it was so plentiful in 1928-29 that immature trees were sometimes cut down to provide thatch for the repair of houses, their trunks being allowed to lie and rot as unfit for food. This was not a usual procedure and many families were not wealthy enough to treat their palms in this way. In Tikopia the palm is not planted but is allowed to propagate itself. Trees are reckoned as ancillary property to the soil on which they stand. There is no separate ownership of soil and of sago palms such as exists in part of Melanesia. The differential wealth of families in these palms leads to a system of utilization involving a payment analogous to " rent."

Utilization of the sago palm for starch demands some knowledge of its properties. The Tikopia judge the maturity of a palm by its flowering, they know that time must be allowed to elapse between grating and filtering to allow starch and fibre to separate, and they can also estimate the probable yield in terms of baskets of starch from a palm of given size. They have not carried their knowledge, however, to the extent of observing the difference between male and female flowers and formulating any theory of the propagation of the palm. They are also ignorant of any use that may be made of the nuts.

The extraction of the sago flour is done by a series of processes demanding considerable labour for several complete days. It is periodical, during the trade wind (rainy) season only. The important factor here is the water supply, which is essential to extraction and which is more plentiful then. This use of water links the manufacture of sago with that of turmeric and technically they have certain common features.

The process of extraction of the starch varies in some particulars from the common Western Pacific methods. The pith is removed from the trunk not with adzes or gouges but with scrapers ; and the starch is extracted by kneading the material and not by beating or trampling it. Neither the hollow base of the leaf rib, nor a hollowed portion of the trunk of the palm itself is used as a working receptacle ; the leaves are discarded and the trunk broken up. Large wooden troughs, made possible through the existence of big trees in the island, together with baskets of coconut leaf, are used instead. I am not able to compare the efficiency of these various technical processes. The fact that the Tikopia industry is not self-contained means certain consequences for the economic organization. The manufacture of the wooden troughs involves the services of specialist craftsmen, and the fact that they are very valuable leads to a system of borrowing and co-operation in production which affects the distribution of the product. For this reason, probably, sago-making in Tikopia is not only the work of women, or of single individuals, as it frequently is in other areas. Moreover, the breaking up of the trunk allows a group activity in the initial processes in a way which is not so easy when the trunk is reserved as a working receptacle. Primitive technical methods thus tend to be linked with specific forms of economic organization.

Technical Processes of Extraction of Starch

The first operation, the felling of the tree, is done after the tree has been observed to have

flowered. While one man chops at the base with an axe, others hold long props against the trunk. While the cutting proceeds a lad climbs the tree and lops the fronds, which are collected as they fall and carried off for use as thatch, etc. If the sago to be made is that of a chief, then he is usually present to direct the felling. He does not do any actual chopping himself. When the cut is deep enough the men with the props on the far side give a push which sends the trunk crashing.

The next process is the removal of the leaf bases (*firoi ota*) and bark from the trunk. Then follows the scraping down of the trunk. A group of men—in one case I observed a dozen—squat around the trunk at intervals and set to work (Plate I, Fig. 2). Hoops of iron which have been serrated to form blunt teeth are used for preference. But these hoops were still not common in 1928-29 and the ordinary implement was then half a coconut shell with one edge sharpened by rubbing it with a piece of coral rock. Some of these shells are serrated, some not, according to the preference and time of the person who uses them. Quite frequently the scraper breaks, and for this reason each man has by him a couple of extras. An alternative method of working the trunk is to cut it up into sections three feet or so in length, nine or ten inches square. This is done when it is convenient to do the scraping near the dwelling house, and not in the orchard. In one case I saw a long spar fitted up in a canoe-shed ; it was hung about two feet from the ground on vines. The slabs were leaned against this and the men squatted on their heels before them, one to each slab. The scraping was done with a downward sweep of the shell, both hands being used with considerable pressure. From time to time the scraped material was thrown back out of the way, and the slab was reversed to keep it of even thickness. This part of the work is hard and monotonous. But it is relieved by constant talk and by joking. A man may drop out for a rest occasionally but not for long. Visitors who come may be pressed into service.

As the scrapings accumulate they are carried off in large wooden bowls and covered with leaves of the giant taro. The trunk is scraped away till only a remnant is left. The bowls of scraped pith are then allowed to stand for a day or so to allow the starch to separate from the fibres—" to be rotten that the starch may fall."

The most important operation is the extraction of the starch. The pith scrapings are put into a coconut leaf basket of fairly close mesh, which is then inserted into another basket and set on a couple of bars of leaf rib over a large wooden trough. Water is brought in bowls and poured on to the pith, which is kneaded with the hands to free the starch granules and allow them to run through the meshes into the trough below. The kneading is done by men. Boys are usually pressed into service as water-carriers.[10] For this filtering process sea water or lake water is used, depending upon the site chosen for the work. On one occasion I saw a large canoe used as a reservoir and continually replenished with sea water by relays of men and children. This operation is termed *nununu* (or *nunu*) and the baskets used are termed *kete nununu*. (Linguistically and technically the process has an affinity with that of the extraction of turmeric, which is called *nuanga*). When the trough is full of the turbid liquid (the starch held in suspension in the water) it is covered over with coconut fronds with an extra thatch of sago fronds, and allowed to stand for the starch to settle. The residue of

[10] Firth, *Primitive Polynesian Economy*, Plate I.

coarse fibres and pith in the baskets is thrown away, and children go and forage among it for scraps to eat.[11]

This filtration stage of the work is taboo to outsiders. A rough fence of stakes and coconut or sago fronds is put round the scene of operations, and a frond is tied to a stake in the path some distance away to indicate that the work is in progress. Village people and travellers on the path are then supposed to keep clear. Most do, but, as I saw, if anyone with real business comes up to the barrier he is usually allowed to go through. One might suppose a rational basis for the taboo since the process of filtration demands concentrated attention, which might be disturbed if free access were allowed. The restriction is in line with that imposed during canoe building and turmeric manufacture. But the taboo is not a purely rational prohibition ; the sanction behind it is magico-religious. There seems to be no idea that casual visitors would steal by magical means any of the sago flour. But it is said, if people are allowed to pass through, some may be of evil mind and may cast a spell (*tautuku*) upon the work, invoking their gods that no flour may be obtained as the result of the labour. If the yield is very small it will be said " the sago has disappeared," and this is attributed to machinations from outside. It is an example of the well-known interpretation of inefficiency or failure being due to magico-religious interference. One result of this is that the advance of the knowledge of material conditions is hampered. Inaccuracies in the estimated yield of sago flour from a palm have less chance of correction by empirical observation, and the attainment of more precise results is blocked.

When the starch has settled most of the water is poured off and the remaining liquid is transferred to wooden bowls three to four feet in length. This transference is necessary in order to free the large troughs to cope with the quantity of sago to be filtered. Usually two troughs are used alternately, filling of the one just giving sufficient time for the starch in the other to settle before it is poured off. When the starch has settled in the bowls, the water is poured off again and the starch washed with fresh water from a spring. It is then laid out on leaves to dry. At night or if rain falls it is taken in. Rain is bad, since it turns the starch black. After drying, the starch, now of the consistency of flour, is packed in bags of coconut fibre and stored away. Sometimes a variety of the food known as *fetai* is desired. For this the starch is taken wet, pressed into slabs and cooked in the oven. This gives a very hard mass which has to be beaten into pieces before it can be eaten. But it is reckoned a useful storage food.

The yield of sago flour varies of course according to the size of the tree and its quality, but is normally regarded as giving a good return for the labour expended. A small tree worked by members of the family of the Ariki Tafua yielded four bowls of flour. The tree stood in an orchard of the Ariki Tafua but permission had been given by him to his son-in-law to fell it. This man took two bowls of flour for himself and gave one to the chief's eldest son and one to his youngest son. Since the chief lived with the youngest son acknowledgement was thus made to the tree owner. The yield in this case was reckoned a good one.

Economic Organization

The principal points involved in the economic organization are : the ownership of the

[11] Firth, *We, The Tikopia*, Plate 10B.

raw material; the constitution of the working group; the payment to the workers for their labour; and the division of the product.

The working party is normally composed on the basis of kinship. The person undertaking the manufacture calls upon his brothers and their wives, his brothers-in-law and perhaps other relatives. Their response depends partly upon the work which they themselves have in hand, and partly upon the code of kinship behaviour. For example, while most of the sons of the Ariki Tafua were extracting sago for their brother-in-law from their father's tree, one of them, who had married a woman of the Taumako family, went to assist in sago-making for his wife's people. His affinal relationship demanded that he go as "cook" to help in the preparation of food for their working party. As return for this labour he was given a bowl of flour by them.

Payment for labour is initially by food. While the work is in progress an oven is prepared by the family of the man who has taken the initiative. The food is drawn from his orchards and cultivations and the work of the oven is done by him and his wife and the kinsfolk whom they may press into service. From time to time during the work refreshment is provided for the labourers. In one case I noted green coconuts were brought to them twice during the morning by the sago-owner. It was explained that if no coconuts had been brought then an extra oven of food would have been prepared, giving them two full meals instead of one. Major items in the cost of production of the flour are thus the expenditure of some of the owner's food and his labour and that of kin and neighbours. But while the immediate return for the labour is given, by the food they consume on the spot, a further return lies in the reciprocity from him and his family on other occasions.

But an additional recompense may also be given, based not so much on the labour by the person concerned, but on his social position. It is a portion of the sago starch. Where a younger brother will receive food only, a brother-in-law or the senior representative of an assisting family will receive some starch as well. This means a concept of labour as a social service and not simply an economic service. It means also that the activity is looked on to some extent as joint or co-operative production. The joint character of the production becomes more marked when the tree utilized is not the property of the entrepreneur. Here the general rule is that if the tree owner takes no part in the work he receives about-one-quarter of the product, while if he is a participant he receives about one-half. General canons of etiquette apply to this division of the product, as also to provision of the technical apparatus used, the principal items of which are the large wooden troughs.

Throughout this productive activity every service rendered is given repayment, by subsistence or by a portion of the product, or both. Linked with this is the right to demand equivalent service with corresponding obligations of repayment at a future date. Provision is made also for the labour of organization. The person who takes the initiative in the selection of a tree, in getting permission to fell it, and in getting together and maintaining a working party is the one who has at his discretion the allotment of the product. By acknowledged right he takes a large part of it. This may be irrespective of the work which he personally may put in, though ordinarily of course he does take a considerable share in the grating and filtering. Implicitly the Tikopia recognize the function of direction in the enterprise, and admit wages of management, allied to profit.

Ritual of Sago Extraction

No ritual is associated with preparation of slabs of sago pith, but rites are associated with extraction of starch, probably because of the greater difficulty of the operations. Reference has already been made to the taboo surrounding the process of sago filtration and to its effects. Other ritual practices, associated particularly with the completion of the extraction process, depend upon the thesis that the sago palm is not just a tree but is a symbol, even a material embodiment, of one of the Tikopia gods. As such it is ritually associated with specific kinship groups in the community.

The rites performed are of two kinds. The first set is specific in character and is based upon the association of the kinship group of Fusi with their major deity Tarikotu,[12] who has as one of his embodiments the sago palm. Consequently the destruction and utilization of the palm by man requires some acknowledgement by the ritual elder of the Fusi group. And, since this group has precedence among those which constitute the clan of Tafua, the chief of Tafua participates also in the ritual. The other series of ceremonies is of a more general order and is based upon the fact that each of the three other chiefs invokes Tarikotu in his list of kava deities and therefore celebrates the making of sago as part of a wider ritual scheme of activities. The specific ritual was described to me by Pa Saukirima, elder of the house of Fusi, and he allowed me to be present during the performance.

It begins with the *putu*. This is a word used generally for the mass of green food set on the grave of a dead person to symbolize his severance from the foods which he cultivated during his lifetime. Here it is an offering to the deity on the felling of the sago palm, the destruction of his " body," as to a person dead. The elder of the Fusi group is the only person to offer the *putu* since the sago palm is " based " upon him, as the expression goes. He goes early in the morning of the day on which the sago is filtered, and cuts a bunch of bananas which he sets under the eaves on the ritual side of his house. He then spreads out a set of bark-cloths as offerings to his deities. This act is part of the general series of performances which takes place when any ritual appeal is made to Tikopia deities. The bark-cloths are known as *maro*, which may be translated as " ritual vestments." As the first of these is spread the elder recites a formula :

" *Tou maro tena Tarikotu*
Kau kaina kou tae
Tou tino tapu ka putu atu te aso nei
Tou koroa ka fora atu
Ma tou putu ka fakatu atu
Tou tino nokosaroa e te fenua
Tena foki na aso ka penapena atu i ei
Tenei kua putu atu
Tou putu ku fakatu atu
Ke poi o tu fakataurekareka ko te vaerangi
Fakamasa ko te vaerangi
Penapena ke taurekareka."

Translation :

" That is your vestment, Tarikotu,

[12] The name was given by some informants as Tarikotua.

I eat your excrement
Your sacred body will be *putu* on this day.
Your property will be spread out
And your *putu* will be stood up
Your body which has been grated by the land,
Now too is the day on which it shall be prepared.
Here it has been *putu*.
Your *putu* has been stood up.
You go and stand up the skies beautifully;
Dry up the skies;
Get them ready to be beautiful.

There are four principal elements in this formula: announcement of the offering; abasement before the deity; atonement for the desecration of his body; and the expression of a practical aim. The expressions of announcement and abasement need not be explained further here; they are part of the general invocation to any deity.[13] The atonement consists in the references to the *putu*, the bunch of bananas which has been stood up as a ritual acknowledgement. The change of tense in the formula is a common feature of such addresses and signifies the aggregation of activity past and future. The practical aim expressed in the last three lines is for fine weather to dry the sago flour. This deity, like many others, is held to have some control over the state of the skies.

The bark-cloth I saw spread to Tarikotu was a white one, and was followed by another white one in honour of Tufare, a sea deity of the Tafua clan. Added to this was a piece of blue European calico which the elder possessed, and which he subjoined to the bark-cloth as a honorific addition (*fakaepa*). This is a common practice. Finally came an orange bark-cloth, spread to Poumera, another of his deities. The offering of each of these cloths was accompanied by a similar formula, though the weight of interest was directed upon the initial major deity. It will be noted that the sago palm is spoken of in the formula as the "body" of the deity. The reference to the grating of it by "the land" means that the elder is celebrating not only his own sago manufacture, but that of the whole community, for which he stands as sponsor and mediator. For this reason when ordinary people manufacture sago they do it without these ritual performances; their ritual has been aggregated as it were in the hands of the elder.

The bark-cloths are left unfolded in the house all day. In the evening food from the oven which has been prepared for the workers is brought into the house and set out as a ritual offering. Portions are thrown from it to the deities with appropriate formulae, and the bark-cloths are then folded up and put away.

It might appear from what has been described here that the god Tarikotu is simply a personification of the sago palm and is addressed as such. This is not the case. He is believed to operate in a much wider sphere than that of sago representation.

This rite of atonement performed alone by the elder of Fusi is integrated into a wider scheme of activities by his chief, the Ariki Tafua. In 1928-29 this chief was a Christian, so he performed no ritual beyond a small food offering to his old gods. But in former days he participated with his elder in a series of ceremonies. When the sago palms were still

[13] Cf. my *Work of the Gods*, Vol. I, p. 38 *et passim*.

standing, several months before they flowered, food was planted in preparation for the ritual. Then when the trees were ready, one was felled and the starch was prepared. It was cooked until it was dry. People of the Tafua clan were then invited by their chief and by the elder of Fusi to go to the cultivations and dig out the food which had been specially planted. This was carried to the temple Fusi, a house which formerly stood near the dwelling of the elder and in which the Ariki Tafua performed kava rites only during the elder's presence. (The elder's own temple was Farekarae, a name still borne by a kinship group which is an offshoot from Fusi.) The food *fetai* was prepared from the sago flour; it is " the standing food " of the sago ceremonies. When all the food was ready kava was made in the morning in the temple of Fusi, and the Ariki Tafua officiated in making the offering to Tarikotu. When this was done, the party dispersed, the chief going to his temple, Tafua, and the elder of Fusi to his, Farekarae. There each performed a kava ceremony of his own to the same deity, " announcing " the sago to him. This preliminary rite performed by the chief and his elder gave the signal for the general manufacture of sago. When the other chiefs observed that work had begun in Fusi, then they began too.

I was given this outline of the ritual by Pa Saukirima himself. He explained that the taro and other food for the ceremony has to be planted four months ahead, to be ready at the appropriate time. But sometimes the coconut was a delaying factor. If there were not sufficient dry coconuts to provide cream for the puddings then the ceremony was delayed. But meanwhile the sago palm stood in flower, to the irritation of the other people who wanted to get on with their work. This illustrates the interrelation of activities in Tikopia, the sense of responsibility that must be displayed by leading men, and the care in organization by some individuals to ensure that general productive effort can go forward.

My informant added that in olden times, in the days of his grandfather, a further rite used to be performed, in Marae, the ceremonial heart of the island. After a long time had elapsed and food had been planted, all the chiefs agreed to join and perform the kava in Marae. The food was brought and heaped together and while the chiefs and their followers sat in their appointed places, the Ariki Tafua, standing up in the centre, recited a formula to their collective gods.[14] He then presided over the distribution of the food, and the feast took place.

It has been mentioned above that ordinary makers of sago do not perform the ritual, but that the chiefs of other clans than Tafua have their ceremonies. The sago here is not so much the main object of the ritual as a point of departure for a more general acknowledgement to their gods. The rite they perform is termed *poroporo*, a term applied to firstfruits ritual for taro and breadfruit as well.

On the day that their sago is scraped and also when it is filtered, a small kava rite takes place. A couple of days afterwards some of the starch is mixed with other foods and cooked as a pudding. The ground immediately around the temple of each chief is then weeded and cleaned up, a ceremonial act which enhances the value of the ritual and is always a sign that it is an important occasion. The act of cleansing " the sides of the house " is a kind of purificatory rite which increases the chances of attention by the gods.[15] The intent of the ritual, it is said, when performed by the chief of Kafika is to compensate for the *paku*, that

[14] This ceremony is of the general type known as " kava of Marae." Its significance with full details has been explained in *The Work of the Gods*, Vol. II, pp. 217-228.

[15] It is performed especially after a thunderstorm, as acknowledgement to the gods.

is the thud made by the sago palm as it crashes down. Uta, the district in which many sago palms stand, is the scene of all the most sacred ceremonies and hence loud noises there are apt to be an offence to the deities. The ritual wipes this out. After this last kava rite no one in Kafika can fell a tree or make any similar booming noise in Uta. Silence again settles on the sacred woods. The same function is performed by the ritual of the chiefs of Taumako and Fangarere, though to a less degree.

I attended the *poroporo* rite for the sago of the Ariki Kafika. It took place at the end of February, 1929. The ground around the temple was cleaned up for some distance by men and women of the chief's family, assisted by one of his elders. The oven was prepared by four men and four women and when it was uncovered in the late afternoon, other men assembled for the ceremony. It was an important rite for which the chief assumed a special vestment and recited a long formula over the kava stem. This embraced not simply the deity of the sago but all his most important deities, and offerings were made to them. At the back of the chief sat one of his kinsfolk who acted as a medium for the chief's gods. This man wore no special dress or ornaments, nor was he smeared with turmeric, as is done when any important communication is to be received. But after the offerings of the kava had been made, he became possessed by one of the clan gods. He was given betel to chew, taking it in his hand and conveying it to his mouth. A cup of kava was also given to him to drink. He spoke with the chief in the thick utterance which the medium uses when he is in a state of possession. The conversation was mostly about the weather, which was bad at the time, and which the chief desired to be clear. The god, speaking through the medium's lips, gave reassuring advice saying that the weather was in charge of the gods, that they would not let it become too bad and that they would clear it up on the day after the morrow. The conversation was treated very much as a matter of course. The chief spoke soothingly to the god, agreeing with what was said in soft tones. But while the god was still in the possession of the medium, the chief cracked a joke with his elder and at the other end of the house people were talking, eating and laughing. A series of gods and ancestral spirits entered the medium, the flight of one being advertised by a trembling of the body and a convulsive jerk, and the entry of another by a quivering of muscles and a straightening of the back. Meanwhile the medium drank cup after cup of kava. When the ceremony was over, the chief sat outside on a stone and ceremonially invested the women and children with a necklet of cordyline leaf, reciting formulae to ensure the continuance of their welfare.

This conforms to a very general type of Tikopia ritual, and there is hardly anything in it pertaining especially to sago. Apart from the fact that it is performed when the starch has been extracted and that a small quantity of the starch is embodied in the food, there is nothing to distinguish it from other kava rites. Comparing the ritual of the elder of Fusi with that of the Ariki Tafua and the other chiefs, we see that there is a progressive diminution of reference to the sago and an incorporation of it in a wider sphere of interest. What we have to consider, then, is not a simple relation between an act of ritual and an act of work. It is a relationship of differential emphasis where the onus lies upon one man in particular to perform the ritual. The obligation upon other men grades off until ordinary people perform the work without any ritual at all. A theory of ritual in relation to economic activity must take into account this differential emphasis and its craft variation. It can be contrasted with cases where ritual and work are linked together in all instances, as in deep sea fishing.

General Observations

The ritual associated with the production of sago cannot be seen then to emerge directly out of the sago situation itself. It is dependent on a wider system of ideas and performances, partly of an economic and partly of a religious order. Some of the ritual, as that performed by the Ariki Kafika, is of a generalized order, the occasion being used for appeals to the gods for general welfare and for specific purposes other than the increase of the yield of sago. In the ritual specifically associated with the sago itself the explicit aim, it will be noted, is not to produce more sago, or to produce the given quantity more efficiently. It is to conserve the supplies and to keep the sago production in equilibrium in relation to the general economic system. It may be described as a *conservation ritual* rather than an *increase ritual*. It embodies no practices to promote growth or to facilitate planting (and there are no formulae when the fronds are cut for thatch). The ritual atmosphere which surrounds the filtration of the flour is not so much to increase the yield as to embody precautions for conserving it. It is essentially a firstfruits rite which takes the form of appeasement of the tutelary deity whose material representation has been injured. This may be contrasted with the type of ritual performed in turmeric manufacture, which does involve appeals for increase of yield; with the ritual of taro and yams which involve growth formulae; and the ritual for bananas, which consist mainly of planting formulae.

The majority of people extract sago flour because of their seasonal needs. They perform no ritual. But the performance of the ritual by the chiefs and the elder of Fusi has two functions for them. Firstly, it gives the signal to begin their own activity. Secondly, it assures them that the fertility of the sago palm, and the potential dangers of interfering with it, are being looked after on their behalf.

But the concept of fertility does not enter in the sago ritual to any great degree. It is present not as a specific theme in the ritual formulae but rather as a general background to the performance of the ritual. If this is not performed then, it is true, there is thought to be a danger of the fertility of the sago palms being damaged. But in other agricultural performances such as those for taro or yams the idea of renewal of fertility, and of cyclical reproduction of the vegetable, is much more important. This involves the concept of *mana* or (*manu*, as the Tikopia more usually term it).[16] The sago ritual has a multiple function for the chiefs themselves. They acknowledge the firstfruits of the sago to its deity, but they also make this an occasion for a general acknowledgement to all their own deities. As we have seen, they may attempt also to satisfy themselves on such immediate matters as the state of weather. The elder of Fusi, however, is in a different position. He wants sago flour for his ordinary purposes. But he must make the acknowledgement to his deity not only on his own account but also on behalf of the people as a whole. This obligation may lead him to manufacture sago each season irrespective of the quantity of flour that he may have on hand in his house. The desire for immediate economic gain is supplemented by and even controlled by the need for conformity to his social and ritual obligations.

The Tikopia premise is that a particular agricultural interest is represented by the head of a particular kinship group. Such representation is not necessarily correlated with the position of that group as the prime owner of the goods concerned. The elder of Fusi owned

[16] See my "Totemism in Polynesia," *Oceania*, I, 1930-1931, and "An Analysis of Mana: An Empirical Approach," *Journal Polynesian Society*, Vol. 49, 1940, pp. 483-510.

in 1929 many fewer sago palms than, for instance, the Ariki Taumako. But it was not the function of the latter to perform the prime ritual in connection with extraction of sago starch. A system is conceivable in which performance of ritual over a foodstuff is delegated to the person who has control over the greatest amount of it. But this would involve a type of ritual held in common knowledge or a technique of easy transmission from one person to another as comparative wealth fluctuated. A hereditary system consolidates the ritual knowledge at the possible expense of correlation between economic control and ritual performance. It presumably has social advantages in other directions. Reasons in a particular case why there should be a lack of direct association between ritual privileges and obligations, and economic control, may be obscure. In this case they rest on historical data which it is impossible to obtain. Differential growth of population in the groups concerned, and differential cutting out of sago palms may have tended to reduce the sago holdings of the Fusi group and so reverse an earlier correlation, if indeed such existed.

In any case, economic control may be irrelevant from one basic sociological point of view. Examination of the hereditary character of the sago ritual in Tikopia brings up the native ideas of unity, representation and delegation of public functions. It is a frequent phenomenon in Tikopia for a single individual, by virtue of his status, to perform a rite which is believed to be efficacious for the community as a whole, even though they do not participate in it. In such cases as this, the representative of the community may not be of the highest rank in it as far as general social purposes go. Nor may he seem to have any special title of majority economic interest to lend colour to his acknowledged rights. But such division of function allows a considerable number of individuals and constituent groups of the society to emerge at specific points in the social life, as mediators with the gods for the whole community. The Tikopia thus have given a convenient expression and scope to individual assertion and self-display. Without such outlets as these the forces of individual assertion might tend to disturb radically the privilege scheme of the rank structure. The role of individuals as mediators is obviously linked with concepts of the sacrifice and the scapegoat found in other communities, but their role is essentially passive; it is with the priesthood that the closest comparison is to be found.

RAYMOND FIRTH.

Fig. 1. Tikopia man making thatch from sago leaf.

Fig. 2. Group of Tikopia grating sago from trunk.

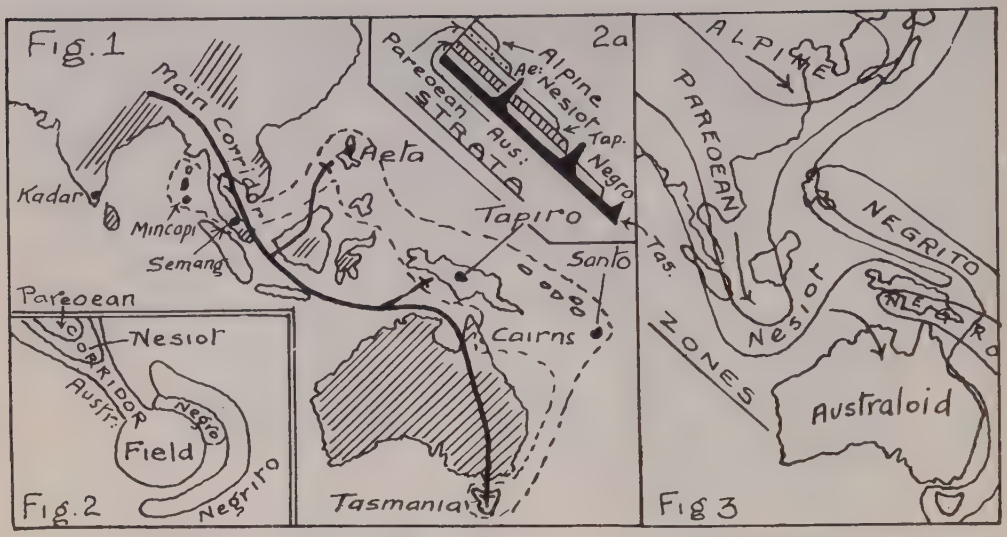

Fig. 1. Map showing the common corridor used by all races migrating to the south-east of Asia. Fig. 2. The "playing-field analogy" suggesting how racial habitats are arranged around the corridor. Fig. 2a. A vertical section through ethnic strata between Asia and Tasmania. Fig. 3. The zones of races around south-east Asia, which give a clue to their evolution.

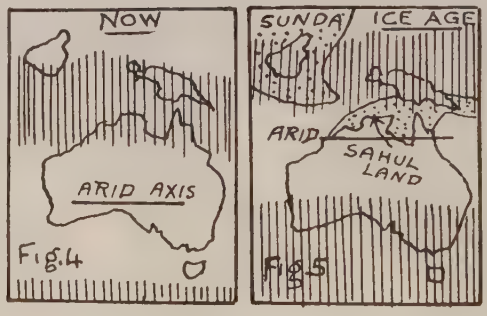

Fig. 4. Climatic belts to-day (of the equinox), when the driest belt is across the south *of Australia. Fig. 5. Climatic belts in an Ice Age (at the equinox), when the driest belt is across the* north *of Australia.*

Tasmania: Ethnology. **Taylor.**

Migrations of the Tasmanians. *By Griffith Taylor, Sc.D., Professor of Geography, University of Toronto.*

The field in which I have been most interested in regard to the Tasmanian aborigines is concerned with their migrations and those of their racial allies to the north. Perhaps a brief survey of these aspects of their ethnology will be of interest. In 1919 I published a race-distribution map of the world based on Matthew's theory of mammalian distributions. He showed that biologists could solve three vital problems, mainly by reference to a careful *charting* of biological data. Considering three allied animals, for instance the tapir, the rhinoceros and the horse, he showed from their distribution that they all originated in central Asia. Moreover the tapir represented the earliest and most conservative of the series, and it had been driven out of Asia because it did not respond to changing environment. Later the rhinoceros moved out also (though not so far) and formed an intermediate zone. The most plastic types developed into the horse, best suited to the dry treeless environment of the Asiatic cradleland at the close of Tertiary time.

I was convinced in 1919 (as I am now) that the racial differentiation of man occurred millenia before he became in the least civilized. His evolution and migrations were determined by the same environmental factors as affected other mammals. He must respond in the same way to the " Age and Area " concept, which I have just discussed briefly. However, I prefer to call it the " Zones and Strata " concept, since the ethnologist plots the distributions as concentric *zones* on his maps. He also investigates fossil evidence of former migrations, for these leave relics in the Pliocene, Pleistocene and Recent strata, as is now known to every student of primitive man. The fossil (*strata*) evidence corroborates the surface (zonal) evidence shown on the maps.

A line of investigation which the writer has followed for forty years has been concerned with changing climate and changing topography, especially as they controlled man's development. I refer those interested to my two books, " Environment, Race and Migration " (Chicago and Toronto, 1946) and " Our Evolving Civilization " (Toronto, 1947). I have found certain diagrams to be of considerable value in my lectures dealing with migrations to the south-east of Asia, and they are sketched in the accompanying figures. In Fig. 1 we see the distributions of the primitive Tasmanians (Black) and Australoids (ruled), before the migrations of European peoples took place. The Tasmanians with their frizzy hair and their rather broad skulls are allied with the pygmy negritoes (Tapiro) of New Guinea or Philippines (Aeta). They have no affinity with the true negroes of New Guinea and Fiji. The obvious corridor both for the Tasmanians and Australoids was along the heavy line shown in Fig. 1. But the present-day relic-tribes are displaced much to the east of this line, as is shown by the area enclosed in the broken line.

To account for this pattern I use a familiar analogy, as indicated in Fig. 2. Here we see a playing-field outside a city, with a main road (corridor) leading to it. Early in the day of an important game, the small boys move out to the field—wander about freely for a time, but finally are displaced into the trees at the side of the field. Their position reminds one of that of the negritoes and Tasmanians. Then come the proletariat along the same corridor, and they represent the Australoids. Not yet due to arrive at the field are the richer folk (Nesiots) and most superior people (Pareoean Alpines). They would undoubtedly have

moved along the same corridor and displaced the Australoids—if the industrial revolution had not given the Europeans the initiative in this part of the world.

We thus get a series of zones of races to the south-east of Asia which is more clearly charted in Fig. 3. These zones according to the Zones and Strata Theory suggest that the negritoes are the most primitive, followed by negroes, Australoids, Nesiots, Pareoeans, and Alpines, in this order.

If we reconstruct the fossil strata as well as we can, from relics of earlier migrations, we obtain some such diagram as appears in Fig. 2A. Here a section along the main corridor from central Asia shows us a lowest layer of negritoes. These have reached Tasmania, but have become somewhat mixed with Australoid tribes on their long migration. Mr. Tindale has described similar half-castes as still living in the forests near Cairns. These Queensland relic-tribes support the view that the Tasmanians reached their island from Australia, and not from the eastern islands as some have suggested. " Inliers " of negritoes (almost submerged by later migrations) are represented by the Tapiro and Aetas, and these are also indicated in the strata diagram (Fig. 2A).

Following the negritoes came the negroes—who however did not reach Australia. Then came the main Australoid migration, and it is possible that, as they drove the Tasmanians to the south, a considerable miscegenation occurred. Later came the Nesiots into the south-east islands, where they form numerous tribes in the interior of Borneo, Java and Sumatra. The last comers were the Pareoeans (formerly called the Malays), who are the dominant race in all the large islands as well as in the south-east of Asia. The true broad-head Alpines never reached this corner of Asia, but formed many of the latest Polynesian migrations into the islands of the Pacific.

The last two figures show how these migrations may have been affected by the great changes in topography and climate during these age-long migrations. To-day the climate map (at the equinox) is much as in Fig. 4. A belt of rains is just touching north Australia—but most of the land (ignoring the east coast) is arid. In winter the north is dry, but the southern wet belt moves north and benefits all the southern coastlands.

There have been four or five major ice ages since man evolved on the earth ; and perhaps the last (Second Wurm) ice age was only 20,000 years ago. Two great changes affected the environment, as shown in Fig. 5. The southern rain belt covered much of Australia, and the south coastlands never experienced any dry period in summer, as it does to-day. But the northern lands were semi-desert or worse, and were not visited by tropical rains even in summer. The topography was very different also. The water in the immense masses of ice covering temperate lands came from the oceans, and they were necessarily some 200 feet lower in the ice ages than they are now. Thus two large lands were exposed, as shown in Fig. 5 ; and these are known as Sunda Land and Sahul Land. Obviously it was much easier for primitive tribes to reach Australia in those ice age periods. It is to be noted that the north coastlands were very unattractive then, and would repel any but desperate refugees driven out of Asia by stronger races.

We have no accurate data as to the time of arrival in Australia of the Tasmanians and Australoids—or of the negroes and Nesiots in Melanesia. But some succession of events such as the following may be fairly near the truth. The negritoes, in my opinion, represent a human group far removed from other races. Possibly they were derived from a small, broad-

head, ancestor ; whereas the four major later races are derived from a larger, narrow-headed, ancestor. The earliest negritoes may have reached Australia as far back as Riss, Riss-Mindel or even Mindel times. They were protected from later invasions by the poor environments of north Australia ; so that the negroes settled in Papua, and did not try to conquer the negritoes in Australia. Later on, population pressure was much greater in Asia, and the Australoid migration may well have reached Australia during an ice age when Sunda Land brought them within a few hundred miles of Australia. The relatively recent migrations from Asia of Nesiots and Pareoeans took place so lately in world history that they had not yet had occasion to invade Australia. To use the playing field analogy, they still remain in the corridor leading to the large land of Australia to the south-east.

GRIFFITH TAYLOR.

Australia: Linguistics. **Capell.**

Some Myths of the Garadjeri Tribe, Western Australia. *By A. Capell, M.A., Ph.D., Reader, Department of Anthropology, University of Sydney.* (*Continued from Vol. IV, No.* 3.)

Text VII. A Story of Gamida

1. *Gamiḍa Bal'eri maryo, Migiga yura; gin'äygura d'ando D'ärid'ägu.*
Gamida Paldjeri man, Migiga country; his wife Djäridjägu.
2. *Ŋana? Jäni mari yaligu mai, wuḍu mai. Järin'äri mai, d'a:la.* 3. *Mai*
What? Make for-us-two food, much food. Nalgo food, now. Food
gambala yaligu; gui gaḍi jän'än'a; gui man yalagu. 4. *Wai d'ando, wai*
cook for-us-two; meat for I go; meat I-may-get. Eh woman, ?
mai? Nad'a mai. Galaia; jani manma d'ädaṛa. 5. *Gala mabu n'undu.* 6. *Miṛa*
food? Here food. Right! I-have-done fully. Then good you. He
gän'äri maryo gul'ayu. Walan'u, walan'u gin'äyga, woba yaligura Welbarambara
sees man from-south. Stranger, stranger he, child of-us-two Welbarambara
jän'ari. 7. *Go! Lani. Wan'd'a yuru? Wabuna yuru. Buyana gin'äyga maryo.*
comes. Oh! Close. Where from? Wabuna from. *Bungana* that man.
8. *Wai d'äbulu n'undugura? Ŋuni wanadi Wabuna. Muḍa jän'än'a—n'undu gaḍi*
? father your? This-way camps Wabuna. Just I go you to
jän'än'a. 9. *Ŋawai. D'äbululu jindanbaŋgu gaḷigu. Ŋawai. Gaḍi manŋarala*
I go. Yes. Father asks-you-for-boomerang. Yes. Bring along
gaḷi ba garbina. 10. *Wai miḷin? Ŋawai, miḷin ba. Ŋanagu? Guligu.*
boomerang and shield. ? spear? Yes, spear too. For-what? For-a-fight.
Ŋawai, wuḍu guli ŋan'agura. 11. *Wa'nd'a d'ayga maryo? Baiaru d'ayga. Guliguli*
Yes. big fight our. Where at man? Baiaru at. Quarrel
ŋan'agu. 12. *D'aŋgu, miṛa gawaia n'ura; wanadi gaḷl, miḷin, garbina.*
for-us. Look out, see you; is boomerang, spear, shield.
13. *N'äŋara gulbagun? Ŋaduṛain. Ŋawai. Warugu gulbaguṇa guli gaḍi.*
When will-you-return? To-morrow. Yes. Quickly I-shall-return fight to.
Malu maryo? Ŋawai, malu maryo. 14. *Jälira wanadaja malu maryo? Ŋawai.*
Many men? Yes, many men. Before are many men? Yes.
Galaia wanadajabula. Galaia jän'än'a.
Then good-bye-camp you two. Then I-go.
15. *D'aŋgu, ŋuni d'ai Welbarambara. Nad'a maryo lani. N'äŋara*
Look out, this-way comes Welbarambara. Here men close. When
d'aigaja d'a:la? Jurgaragara. 16. *Dugal ba d'äbula. Jarunaja. Ŋaḍuraŋu*
come now? Long-time. Red-paint and white-paint. They come. Who
guli gad'a? Ŋan'a. 17. *Jarunaja guli gaḍi. Ŋawai. Muläl miḷin, gaḷilu*
fighting? We. They-come fight to. Yes. Not spear, boomerang
män'än. 18. *Ŋana d'ayga guli? N'uralu ṛawari ŋad'ugura babaḷa.* 19. *Ŋawai,*
only. What at fight? You killed my brother. Yes,
järaniṛa id'a gaḍi. D'ingann'irin'a d'a:la. 20. *N'undugura babaḷa ṛawari? Ŋawai.*
comes forth to. We-kill-you you. Your brother dead. Yes.
N'uralu d'inganjuru julbur, ŋan'agura guli n'ura muläl. 21. *Ŋanagu guli d'a:la?*
You killed of-old, our quarrel you not. What for fight now?

Mulāl ŋan'a julbur guli, n'ura. Baiaru. Warad'a ŋad'ugura babaḷa. Ḍawai.
Not we of old fight, you. Baiaru. One my brother. Yes.
22. *Galaia, wuḍulu marŋo muwar jindaṇu. Welbarambara d'äbulu bala.* 23. *Galaia*
Now, big man speech spoke. Welbarambara father he. Now
n'undu mabu. Guli jālin. Wai wandugun'a? Mabu. N'äŋara gulbajuru?
you good. Fight after. ? we-shall-camp? Good. When do-you-return?
24. *Manan. Ḍawai. Galaia n'ura, jān'ārajana. Gala jārajau! Wai*
In-the-morning. Yes. Now you, we-go. Then go! ?
gulbagunjuru jālin? Baṛamiṛi. Miŋgin gad'a ŋal'a lian. Ḍawai, galaia.
Are-you-returning after? Perhaps. Wait. we-two-stomach. Yes, all-right.

Translation.

1. Gamida was a Paldjeri man of Migiga country. His wife was Djäridjägu. 2. "Eh" (he said to her), "make some (vegetable) food for us two, a big lot, nalgo, straightaway. 3. Cook food for us two. I am going for a kangaroo. I might get a kangaroo." (On his return, he says) 4. "Eh, woman, what about food?" "Here is food" (she answers). "Good. I've finished altogether." 5. "Good for you." 6. He sees a man coming from the south. "He's a stranger, a stranger. It's our grandson, Welbarambara, coming. 7. Ah! now he is close. Where have you come from?" "From Wabuna" (says the young fellow). He belongs to the Bungana grade. 8. "What of your father?" (asks Gamida). He is over this way at Wabuna. I am just out walking; in fact I was coming to you." 9. "Oh yes?" "Yes; father asks you for a boomerang." (Gamida says to his wife) "Bring me a boomerang and a shield." 10. (To the youth) "Do you want a spear?" "Yes, spear too." "What for?" "For a fight. As a matter of fact we are having a big fight." 11. "Where are the men?" "At Baiaru. It's a fight of ours." 12. "Well" (said Gamida), "You people look out now; here are boomerang, spear, shield. 13. When are you coming back?" "To-morrow." "All right." "I'm going back quickly for the fight" (said the youth). "Are there many men?" (asked Gamida). "Yes, a big number." 14. "Are there many men in front?" "Yes. Well, good-bye, I must be going."

15. (He arrives back at his camp, and the men say) "Look out! Here comes Welbarambara. Here is the man close." "When did he get back?" (ask others). "Sometime ago, 16. with red and white paint" (on him). They are coming in. "Who are fighting?" "We are." 17. "Coming in for the fight?" "Yes." "No spears, only boomerangs. 18. What is the fight about?" "You killed my brother." 19. "Yes, that is perfectly true; and now we are going to kill you. 20. Did your brother die?" "Yes, you killed him some time ago, although we had no quarrel with you. 21. What is the quarrel about now? We did not quarrel with you of old; it was you (who started it)—at Baiaru. He was my only brother." "Yes."

22. Then the head man made a speech. That was Welbarambara's father. 23. "Good for you. Fight next. Shall we make a camp?" "All right." "When are you people going back?" 24. "In the morning." "Yes. Well, good-bye, we are going." "Good-bye! Are you coming back later?" "We may; we two want to wait." "All right, then."

Notes.

There are practically no notes needed on this text. The story is not one of those with

mythological importance. Another story of Gamida is given by Piddington (*Oceania*, Vol. III, No. 1, pp. 59-60), which does bring in important cultural elements. *Baiaru*(11) has previously been mentioned in Text I: 18. It is not located.

In the next Text is a cosmogony myth, the account of how the sun came to occupy its present position. Once again the story is vastly different to that given by Piddington (*Oceania*, Vol. III, No. 1, p. 58) chiefly in that in his story the sun is a man. It is probably a different tradition, because in the coast dialect " sun " is *ba:ra*, not *barda*.

Text VIII. The Sun Ascends into the Sky

1. *Bala ba:ra ganiŋ wandi, Gurin'd'a jiräru.* 2. *Jän'ari garwal'a gangara.*
The sun below was, Gurindja name. Goes cold above.
3. *Gud'ara d'ando, Wuḷga ba Gurin'd'a. Ŋana baṛi d'uru? D'uru*
Two women, Wulga and Gurindja. What perhaps snake? Snake
bulain. 4. *Ŋanaŋga? Judul'a. D'andolu gan'aribula bulain*
Rainbow-snake. What-in? Paperbark. Women (two) carry Rainbow-snake
judul'a. 5. *Wan'd'a ŋuru jän'aribula? Gagaraŋu, gara gaḍi. Wuḷga balabala*
paperbark. Where from they-two-come? From-east, west to. Wulga there
maryo ŋaligura. 6. *Wulga mun'd'u jindäri Gurin'd'agu. Gurin'd'a bulain*
man for-us-two. Wulga lie spoke to-Gurindja. Gurindja Rainbow-snake
gän'ari. 7. *Gabad'u, jänguli gara, nad'a baṛi woba.* 8. *Wan'd'aŋga walibi*
carries. Sister let-us-two-go-west, here perhaps child. Where-at camp
wanduguli? Nad'aŋga wanduguli. Mai ŋaligura järin'äri. 9. *Wiḍi*
we-shall-camp? Here let-us-two-camp. Food for-us-two nalgo. Pleased
maigu nad'a ŋuraŋga. 10. *Waran'd'u jagaṇu bulain. Gabud'u, mala*
for-food here in-place. One left Rainbow-snake. Sister I-have
d'äriṇala bulain. Gulbaguṇara. 11. *Ŋawai, warugu gulbaja; mulāl d'uru.*
forgotten Rainbow-snake. I'll go back. Yes, quickly go-back; no snake.
Ganiŋ ŋalban'äri ŋuraŋga; muläl nad'a, ŋala gulbaguṇa gara, gabud'u gaḍi.
Down she-descends in-place; not here, then I'll-go-back west, sister to.
12. *Ŋana nad'a jälira magurud'a? Bud'araŋga jän'än'a; d'a:la ŋaba wanadi.*
What here again in-track? Dry-in I-went; now water is.
13. *Ŋana? Wuḷgalu min maria: järäni! Galaia: muṛi.* 14. *Dḷuru garigun*
What? Wulga waits-for-her: Come! Now, river. Snake you-will-get
gangara. Gurin'd'a muläl ŋura, ŋaba män'än. 15. *Wan'd'ar gad'a n'undu, gabud'u?*
above. Gurindja not ground, water only. How you, sister?
Galaia wanadaja balaiaŋga, ŋadu' wanduguṇa nad'aŋga, n'undu wandaja galaia.
Now stay there, I shall-stay here, you stay then.
16. *Gabud'u gala wanadaja. Gala wanann'a nad'aŋga ŋura, lani-gu d'ära.* 17. *Bala*
Sister then stay. Then I-stay here-in place close-for put. That
muṛi d'aŋga Wagid'aŋu, balagud'ara Ba:ra ba Wuḷga gud'ara wiṛin.
river in Milky-Way, they-two Sun and Wulga two stars.

Translation.

1. The sun used to be down below; her name was Gurindja. 2. She went cold above.

3. There were two women, Wulga and Gurindja. And what might the snake have been? The snake was the Rainbow Serpent. 4. What was it in? It was in a paper-bark container. One of the women was carrying the Rainbow Snake in a paper-bark container. 5. Where were the two coming from? They were coming from the east, westwards. Wulga (said) "There is a husband for us two." 6. She was lying to Gurindja, however. Gurindja was carrying the Rainbow Snake. 7. "Sister," she said, "let us go west, there might be a child here. 8. Where shall we camp?" "Let us camp here. There is nalgo for us-two to eat. 9. I'll be glad of food in the place." 10. One of them left the Rainbow Snake. "Sister," she said, "I've forgotten the Rainbow Snake; I'll go back." 11. "Yes, go back quickly; there is no snake." So she went down into the country. "It is not here" (she said), "I'll go back west, to my sister. 12. What is that again here in the track? It was dry when I came down, and now there is a flood of water. 13. What does it mean?" Wulga is waiting for her (she calls out), "Come along! Now, there is a river. 14. The snake you will get above." Gurindja has no (dry) ground, only water. 15. "How are you, sister?" "You stay where you are; I shall stay here, you stay over there." 16. "Stay, then, sister." "Then I'll stay in this place, close by." 17. That river is the Milky Way, and the two women are two stars, Sun and Wulga.

Notes.

The suggestion in 2. that the sun was originally cold is not limited to this myth; it is not an uncommon theme in mythologies elsewhere. 3. *Bulain* is the Rainbow Snake, of whom more will be told in the next myth but one. 9. *widi* "pleased": there may be a play on words here, for the other sister's name, Wulga, means "pleased," "happy" in Njangumada.

Text IX. The Moon

1. *Ḍaḍaḍa gagaraŋu garai jän'iri. Jän'äri bala maryo warad'a gagaraŋu,*
Moon from-east to-west goes. He-goes that man one from-east,
gin'äŋga Ḍaḍaḍa. 2. *Go! Järani lani. Ḍana maryo n'undu? Ḍad'u Garimba.*
he moon. Oh! Come close. What man you? I (a) Karimba.
Wan'd'a gaḍi jän'ärin? Gara jän'än'a d'urar gaḍi. 3. *Wai lani ŋura gara?*
Where to you-go? West I-go sea to. ? close country west?
Ḍuni, ŋuni, ŋuni. Gad'eri. Wan'd'aŋga walibi n'undu wandugun?
This-way this-way, this-way. Far. Where camp you will-camp?
4. *Nad'aŋga Ḍaduṛain jänŋalagu. Nad'a n'undugura d'ämbaḍu. Balaia Bal'eri.*
Here. To-morrow I-may-go. Here your m.b.d. She Paldjeri.
5. *Nad'a waṛain gabaḷi n'undugu. Wai gaḍaga wandugubula?* 6. *Waṛain d'ando*
Here one wife for-you. ? sleep you-two-will-be? One woman
gabaḷi n'undugura. Baṛamiṛi, n'uralu guli ŋad'u wulgu. 7. *Muläl. Ḍaŋani.*
wife your. Perhaps, you angry me, I afraid. No. I-don't-know.
Galaia, gaḍada wandugul'a walibiŋga. Manan jänŋalagu, jaganŋalagu nad'aŋga
Then, sleep we-two-will-be in-camp. To-morrow I-may-go, I-may-leave here
ŋura. 8. *Galaia, wandi:a. Galaia, jän'än'a. Gai gulbaguṇa ŋala.*
country. Now stay. Now, I go. Bye-bye I-shall-return then.

9. *Baṛamiṛi maryolu d'ingalgun'a. Galaiau! Jära galaia! Gala wandi:a o:!*
Perhaps man will-kill-me. Good-bye! Go now. Then stay oh!
10. *Jän'a gara, n'äya d'uŋgu. Bala gaḍi janŋa d'uŋgu. Maryo wanadaja*
(He) goes west, sees fire. That to I-will-go fire. Men are
balaiaŋga. 11. *Bala garigan maryo. Wan'd'a yuru n'undu? Ḍad'u gagara, gad'eriŋga*
there. That man. Where from you? I east, far-at
yura ŋad'ugura 12. *Ḍaḍu n'undu? Ḍad'u Ḍaḍaḍa. Mabu n'undu; n'undu*
country my. Who you? I Moon. Good you; you
babaḷa. 13. *Ḍad'u gad'a Garimba, n'undu Garimba, Ḍaḍaḍa.* 14. *Wai maryo*
brother. I (am) Karimba, you Karimba, Moon. ? men
wanadaja? Ḍuni wanadaja ŋabaŋga. 15. *Jänguli ŋaba gaḍi, maryo ba*
are? This-way are in-water. Let-us-two-go water to, men and
d'ando wanadaja. 16. *Balabala maryo walan'u. Wan'd'awan'd'a? D'ärun'd'u miṛanu.*
women are. This man stranger. Wherever? Another clever.
Järäni; gaga ba d'äbulu. 17. *Lani järäni, muläl daḷu, gad'eri*
Come; uncles and fathers. Close come, no mothers-in-law, far
daḷu wanadaja. Maṇa nad'aŋga. 18. *Wai wambar? Ḍai. Nad'a mai.*
mothers-in-law are. Sit here. ? hungry? Yes. Here food?
Ḍana mai? Bad'arga. Ḍana waṛain gui? Gui bard'ani. 19. *Waṛain gui*
What food? *Badjarga.* What one meat? Meat kangaroo. Another meat
jälgi, laŋgur, d'ulbugu. 20. *Wan'd'a gaḍi jän'ärin? Gara gaḍi jän'än'a.*
iguana, opossum, kangaroo-rat. Where to you-go? West to I-go.
N'undu män'än? N'undu warad'a? Mabu. 21. *Gara jän'än'a. Wan'd'a gaḍi?*
You alone? You another? Good. West I-go. Where to?
Ḍuni jän'än'a Biḍiṛ ŋaba. Mabu. Ḍura n'undugura maryo. 22. *Mabu.*
This-way I-go Bidir Water. Good. Country your man. Good.
Muläl guli d'aḍu. Babaḷa n'undugura wanadi jälira. 23. *Babaḷa gaḍi jän'än'a.*
No quarrel. Brother your camps in-front. Brother to I-go.
Wai d'andobari babaḷa ŋad'ugura? Ḍai. D'andobari wanadi. Gud'ara woba, waṛain
? married brother my? Yes. Married is. Two children, one
wagala, waṛain maryo. 24. *Galaia jän'än'a. Warug jära. Muläl gad'eri, lani, manan*
female, one male. Then I-go. Quickly go. Not far, close, to-day
walibi wandugun. 25. *Ba:ga gaḍi bun'ḍri, Ḍaḍaḍa bina garf. Warugu janŋa,*
camp you-will-be. Wood is-cutting, Moon hears. Quickly I-will-go,
n'äŋguŋa maryo. Balabala! Ḍaḍuŋaḍu? 26. *Ḍad'ugura jago n'äŋan'än'a.*
I-will-see man. There (you)! Whoever? My brother-in-law I-see.
Järäni! Nad'a wanadaja d'ando ba maryo. Babaḷa n'undugura. 27. *Jänguli;*
Come! Here are women and men. Brother your. Let-us-two-go;
mabu ŋura nad'a. Muläl n'undu wulgu. Ḍuni. Bala babaḷa gin'äŋgura walibi.
good country here. Not you fear. This-way. This brother his camp.
28. *Babaḷa, jän'ari walan'u. Na:niŋu nad'a gaḍi, lani nad'aŋga wandugun'a.*
Brother, comes stranger. From-here here to, close here we-shall-camp.
29. *Wan'd'a ŋuru? Gagaraŋu. Nad'a wanadaja gaga ba d'äbulu ba babaḷa ba*
Where from? From-east. Here are uncles and fathers and brothers and
jago ba d'ämbaḍu ba. 30. *Nad'a d'aŋga ŋura ŋaligura maryo. Muläl*

brother-in-law and grandparents. Here at country of-us-two men. Not
guli d'aḍu; mabu maryo nad'a d'aŋga ŋura. 31. *Ŋawai. Gala mabu. Wanadaja*
harm; good men here at country. Yes. Then good. Are
gaga ba d'ābulu? Malu wanadaja. D'ämbaḍu? Malu wanadaja. 32. *Mulāl*
uncles and fathers? Plenty are. Grandparents? Plenty are. Not
nad'a maryo guli d'aḍu. Nad'a gaḍi jän'än'a ŋura, ŋura gaḍi. 33. *Ŋad'ugura*
here men harm. Here to I come country, camp to. My
babaḷa nad'a wanadi, gala mabu. Jälin mulāl gulban'agu gagara n'undugura babaḷa.
brother here is, then good. Again not may-return east your brother.
34. *Naŋgoro n'undugu daḷu, n'umbalagura babaḷagura. Naŋgoro ŋuni*
Those for-you mothers-in-law, your-two brothers. Those this-way
gabaḷi, nad'a gabaḷi. 35. *Nad'a waṛain gud'ara naŋgoro maryo, jago.*
wives, here wives. Here one two those men, brothers-in-law.
Nada gada. Mabu n'ura. 36. *Nad'a ŋad'ugura ŋura, ŋad'ugura maryo ba*
Here (are). Good you. Here my country, my men and
d'ando ba, Ḍaḍaḍa jindaṇu. Nad'a n'undugura gabaḷi, jindanajala. 37. *Ŋawai,*
women, Moon said. Here your wives, they-said-to-him. Yes,
ŋad'ugura d'ando. Gala mabu. Giliban wuḍu maryo, mabu gin'äŋga. 38. *Jälin*
my women. Then good. Moon big man, good he. After
d'ando ŋuṛin d'inganajala maryolu, jandaṇu galigurulu. 39. *Balaiagu ŋurulu maṇu*
woman about killed-him man, struck with-bullroarer. For that he-stole
ŋala. Baḍiŋbur maryo jiräru jandaṇu, maṇu ŋala d'ando. Wan'd'a gaḍi bil'ur jaṇu?
then. Badingbur man name struck, took then woman. Where to spirit went?
40. *Waṛain gangara gorwal gaḍi. D'a:la wanadi gangara.* 41. *Julbur, julbur*
One above sky to To-day is above. Long ago, long ago
bugari gara d'aṇu ŋala.
dream west put then.

Translation.

1. Dadada (the Moon) came from the east to the west. "The one man who is coming from the east is called Dadada. 2. Oh! Come close. What man are you?" "I am a Karimba man." "Where are you going?" "I am going west, to the salt water." 3. "Is the west country close?" "This way, this way, this way, a long way off." "Where are you going to camp?" 4. "Here; I shall go on to-morrow." "Here is your mother's-brother's-daughter; she is Paldjeri. 5. Here is another wife for you. Will you two sleep together? 6. Here is another woman (who could be) wife for you." "Perhaps you people are angry with me; I am afraid" 7. "Not at all." "I don't know. All right, we two will sleep together in the camp. To-morrow I may go on and leave this country." 8. "All right then, good-bye." "Good-bye; I'm going. By and bye I shall come back. 9. Possibly a man may kill me." "All right, then, good-bye, good-bye."

10. He went west and saw a fire. "I'll go over to that fire" (he said to himself). "There are men over there." 11. He gets to the men. "Where have you come from?" "I've come from the east, from my country a long way off." 12. "Who are you?" "I am Dadada (Moon)." "You are all right. You are brother (to us). 13. I am Karimba, and you are Karimba, too, Dadada." 14. "Are there men here?" "Across here in the

water." 15. "Let us-two go to the water where the men and women are." (They go over.) 16. "This man is a stranger" (says the introducer). "Where (does he come from)?" "Another clever man." "Come on!" "Here are uncles and fathers. 17. Come close. There are no mothers-in-law; the mothers-in-law are at a distance. Sit down here. 18. Are you hungry?" "Yes, I am." "Here is (vegetable) food." "What (vegetable) food?" "*Badjarga*-root." "What other meat (have you)?" "The meat is kangaroo. 19. Other meat is iguana, opossum, kangaroo rat. 20. Where are you making for?" "I am going west." "Are you alone or is somebody else with you?" "Good. 21. I am going west." "Where to?" "This way I am going to Bidir water. Well." "That is your own country." 22. "Good." "Don't do me any harm." "There is brother of yours in front of you." 23. "I am going to my brother. Has my brother a wife?" "Yes, he has a wife and two children, a girl and a boy." 24. "All right, I am going." "Go quickly. It is not far, but close by, you will camp (with him) to-morrow." 25. (So the Moon goes off, as he walks) he hears him cutting wood. "I'll hurry, and see the man. Eh, you!" "Whoever is it. 26. I see my brother-in-law. Come along! Here are men and women. That's your brother." 27. "Let us two go. It is good country here" (says Dadada). "Don't be afraid. This way." This is his brother's camp. 28. "Brother, here's a stranger coming. From this way to here, I will camp close by here." 29. "Where have you come from?" "From the east." "Here are uncles and fathers and brothers and brothers-in-law and father's mothers; 30. here in this place people belonging to us two. No harm will come to you. They are good men in this country." 31. "Yes, all right, good. There are uncles and father?" "Plenty." "Father's mothers?" "Plenty. 32. Nobody here will do you any harm." "I have come to this country, to the camp. 33. If my brother is here, then that is good" (said the visiting brother). "Your brother will not go back again east?" (asked the others). 34. "Here are mothers-in-law for you" (they said), "brothers for both of you. This way these are wives, and wives here. 35. These three men here are brothers-in-law. Here they are." "Good for you" (said Moon). 36. "Here is my country, my men and women," said Moon. "Here are wives for you" they said to him. 37. "Yes, my wives. Good." "Moon is a big man, he is a good man" (they said); 38. but later a man killed him about a woman. He hit him with a bull-roarer, 39. because he had stolen the woman. The name of the man who struck him was Badingbur, whose wife he took. Where did his spirit go? 40. It went up above into the sky. To-day it is in the sky. 41. Long, long ago in the dream time he set in the west.

Notes.

Piddington's story of *Ḍaḍaḍa* is given in "Karadjeri Initiation," *Oceania*, Vol. III, No. 1, p. 58. It is quite a different story, and gives, as usual, an entirely different explanation of the existence of the moon. The word, with three cerebral consonants, is of rather a rare phonetic type in Garadjeri; another such is *ḍaḍaḷ*, sick. There is no doubt the phenomenon of assimilation is at work. 2. begins the conversational part of the story; it is the remark of a group of men who see Moon coming. The geography is satisfactory in that the Moon does actually rise in the east and set in the west, which is no doubt the reason for his moving in a direction opposite from that taken by the other culture heroes in these stories. The only actual place name used is *Biḍir ŋaba* in 21. This is undoubtedly the name spelled *Bidinaba* as No. 14 on Dr. Elkin's map. If "*Biḍir ŋaba*" be "*Biḍir Water*" as taken in

this paper, then the division of words is correct, and the descriptive can sometimes precede the object described in Garadjeri. The place is on the coast, a little north of Migiga (Lagrange Bay), so that Moon could not travel very far *garai*, " westwards " (see 1. and 3.). 4. *D'ämbaḍu :* these relationship terms are difficult to deal with in the texts by reason of the secondary meanings that attach to them. This one is primarily father's mother's brother, then mother's father, but also father's sister's and mother's brother's son or daughter. " Mother's brother's daughter " seems best here, as being a potential wife (Moon being Karimba). 5. *gaḍaga wandugubula*, " you two will sleep together," from *gaḍaga*, sleep, and *wan(a)*-, " camp," " be," constructed with supplements C (iii), 2, B. (*-gu*) and C. (i), *-bula* for *-nbula*, as not uncommonly. 10. *Jän'a* and *n'äŋa* are constructed with no supplements except *-n'a* on the first one. It is not unusual to make a sort of " historic " tense in this way. 11. *garigan :* meaning not ascertained. 14. *ŋabaŋga*, lit. " in the water " may mean only " at the waterside." 15. *Wan'd'awa'nd'a*, with reduplication is emphatic, " where (and) where," " wherever." Similarly 25. *infra*, *ŋaḍuŋaḍu*, " whoever." The word in 15. is particularly interesting in that it is reduplicated as a compound : *wan-d'a* " where " is probably root *wan(a)*-, as in the verb " to camp," " to be in a place," with supplement A. 4 (locative). The compound is then reduplicated as one word. It is, of course, also possible to add the other locative supplement, *-ŋga*, also, making *wan-d'a-ŋga ;* but this compound is not reduplicated, i.e. it is felt as a compound, and the shorter form is no longer so felt. 18. *Bad'arga* is a variety root food, rather like a potato, not identified in botanical terms. *Bard'ani(n)* is a small variety of kangaroo ; the word stretched into Dampier Land and along the Fitzroy River. 23. *d'ando-bari*, " woman-having," married. See supplement A. 1. 39. *Bil'ur* is the departed spirit of a man, generally regarded as going " up above." 41. *gara d'aṇu*, " he put west," i.e. " he set in the west."

In Text VIII there is mention of *Bulain*, the Rainbow-Snake, and the following text contains the development of questions put to the narrator as to the nature and function of the Rainbow Snake amongst the Garadjeri. See further an article by R. Piddington, " The Water-Serpent in Karadjeri Mythology," *Oceania*, Vol. I, p. 352.

Text X. The Rainbow Snake

1. *Bulan'd'u jäni maṇu maryo ba d'ando ba ŗai ba, bugarigara.*
Rainbow-Snake made men and women and spirits, in dreamtime.
2. *Bulain jäni maṇubula Gagamara ba Gumbar.* 3. *Ŋabaŋga wanadi, mulāl*
Rainbow-Snake they-two-made Gagamara and Gumbar. In-water he is, not
ŗawari. Ŋana gad'a gin'äŋga ? Bandirbandir. 4. *Ŋana walin gin'äŋga ? Walin ŋabi*
die. What like he ? Huge. What colour he ? Colour like
dugul. 5. *D'a:la ŋabaŋga maryolu n'äŋa'naraja. Mulāl d'ingalaŋan'irin'a, ŋan'a*
red-paint. Now in-water men see-him. Not he-kills-us, we
mulāl d'ingaṇa. 6. *Gagamara ba Gumbar muwar jälira, " Mulāl d'ingaṇa*
not kill-him. Gagamara and Gumbar said first, " Not we-kill
Bulain." 7. *Bulain'd'u jäni maṇu ŋura ba muŗi ba waŋgu, d'urar,*
Rainbow-Snake." Rainbow-Snake. made earth and rivers and stones, sea,
gui d'urar d'aŋga, mulāl ŋuraŋga. 8. *Gagamara ba Gumbar jäni maṇubula gui*
fish sea in. not on-land. Gagamara and Gumbar made animals
d'aŋga ŋuraŋga.
on on-land.

9. *Bulain'd'u jindaṇu, Mulāl mabu gui muwar. Galaia gui, jirāru.* 10. *Gawid'*
Rainbow-Snake said, Not good fish talk. Now fish, name. Quiet
d'āri d'awa. Malu gui bugarigara, mulāl d'urar julbur, ŋura. 11. *Gabo*
is mouth. Many creatures in-dreamtime, not sea of old, land. Come-down
gin'äŋgaralu ŋaba. Gala jänguna. 12. *Gul'a jängun'a. Wan'd'a gaḍi? Baiar.*
with-their water. Then let-us-go. South let-us-go. Where to? Baiar.
Warad'a maryo wanadi n'irāni. Bala maryo waṛain jaganban'i:a. 13. *Ŋana gui*
One man is behind. That man one we have left. What meat
jaganban'i:a maryo? Baganbur. Mälgin jän'i:a. Bala maryo bid'äl māri. 14. *Ŋad'u*
have-we-left man? Starfish. Let-us-slip-off. That man seeks. I
miṛanu, jäni manŋalagu d'urar. Malu maryo gulban'araja. 15. *Ŋaba gaḍi jängun'a.*
clever, I-might-make water. Plenty men return. Water to let-us-go.
Ŋaba ŋalgun'a. Gamalala. D'urar nad'a; ŋaḍulu jäni man? 16. *Waran'd'u marão*
Water let-us-eat. Bitter Sea here; who made? One man
muwar, Baṛamiṛi jäni man Walmirimirilu. D'ingalgun'a. 17. *Wan'd'a wanadi?*
said, Perhaps made Walmirimiri. Let-us-kill-him. Where is-he?
Ŋand'oroguraŋga ŋura. Ŋuni wanadi Jaḍugara. Gala jängun'a
In-our country. This-way he-is (at) Jadugara. Then let-us-go
jidaman. 18. *Bala wanadi bala. Ŋana ŋaba jäni d'änbaṇa? Mälgin jän'uru*
(like) fighters. There he-is there. What water did I-put? You slipped-off
ŋala. 19. *Gala n'undu miṛanu. Mada wandugu d'urar. Ŋaba gangara ŋuraŋga*
then. Then you clever. Let-it-stop sea. Water above-on-land
buḍara ŋura, mabu ŋaba wandugu. 20. *Ŋalgaja ŋala mabu ŋaba. D'a:la*
proper land, good water let-it-be. Drink then good water. Now
d'ingalgaṇara. Mulāl Id'a, gaḍu d'ingalan'uru. Ŋad'u miṛanu. 21. *Ganiŋ ŋura*
we-shall-kill-him. No. True, cut you-kill-me. I clever. Below land
wuḍu muṛi gin'äŋgagura ŋalbagu ŋala. Miṛa gawai! 22. *Jilbaja milin ŋad'u*
big river of-his let-it-go-down then. Look! Throw spears one
gaḍi; bala maryo miṛanu. Miŋgin, miṛa garigun'a gin'äŋga maryo. 23. *ŊuniŊuni*
at; this man clever. Wait, let-us-look that man. This-way
garibila garin'äri. Warugu jängun'a d'ingalgun'a balaia. 24. *Jarunaja warugu. Nad'a*
he-is-standing. Quickly let-us-go let-us-kill him. Come quickly. Here
wanann'a, lani järunaja! Miṛanu bala maryo. Malu babir gin'äŋgagura. 25. *Gangara*
I-am, close come! Clever that man. Many arms his. Above
babir gin'äŋga, wiṛi man miliŋwaliŋ. Gala mān'aṇa n'irin'a. Jagalaŋan'ina, mabu
arms he, going-round rope-like. Now I-will-take-you. Leave-us, good
ŋan'd'oro. 26. *Mulāl guli. Gala wulgu d'ārin'arajaṇa n'undugu.* 27. *Id'a? Mulāl*
we. Not angry. Now we-are-afraid of you. True? Not
n'ura guli jälin ŋad'ugu? Mulāl. Galaia. 28. *Mabu ŋan'a ŋa:lu. Ŋan'd'oro*
you angry again at-me? No. All-right. Good we stomach. We
maryo. Jaraja gul'a ŋura gaḍi. N'ura jaraja bulin gaḍi ŋura. 29. *Wan'd'a*
men. Go south country to. You go middle to country. Where
n'uragura ŋura? Luru. Ŋuni jängaṇa gul'a Wabuna gaḍi. Galaia, mabu.
your country? Luru. Thither we-will-go south Wabuna to. All-right, good

Jagan'an'irin'a.
I-leave-you.

Translation.

1. The Rainbow-Snake made men and women and (pre-existent) spirits in the dreamtime. 2. The Rainbow-Snake (himself) was made by Gagamara and Gumbar. 3. He lives in the water, and is immortal. What is he like? He is a huge creature. 4. What colour is he? He is in colour like red ochre. 5. Men see him nowadays in the water. He does not kill us and we do not kill him. 6. Gagamara and Gumbar said first, "Don't kill the Rainbow-Snake." 7. The Rainbow-Snake made earth and rivers and stones, the sea and the fish in the sea, but not the land animals. 8. Those were made by Gagamara and Gumbar.

9. The Rainbow-Snake said, "It is not fitting that fish should talk." Now, fish is (their) names; 10. their mouths are silent. In the dreamtime there were many animals, but of old no sea, only land. 11. The rain came down from him (Rainbow-Snake). "Let us go" (said the men). 12. "Let us go south." "Where to?" "Baiar." One man stays behind. "We will leave that fellow. 13. What meat shall we leave that man?" "Starfish." "Let us slip off." The man looked for them. 14. "I am a clever man" (he said), "I might be able to make sea." A number of the men came back. 15. "Let us go to the water and drink." It was bitter. "This is salt-water. Who made it?" 16. One man said, "Perhaps it was Walmirimiri! Let us kill him." 17. "Where is he?" (asked they all), "In our country. He is over here at Jadugara." "Let us then go like warriors." (Off they go. Somebody sees Walmirimiri). 18. "There he is." "What water did I put there?" (he asks them). "You fellows gave me the slip." 19. "You are a clever man, then. Let the sea stop; above the water, on land, let there be proper land and good water." 20. They then drink the good water. "Now let us kill him," they say. "No" (say others). "True" (says Walmirimiri) "you can kill me; but I am a clever man, 21. and (if you kill me) the land will go down under the big river. 22. Look! Throw your spears at me; this is a clever man." "Hold on" (they say), "let us look at the man. 23. He is standing just over here. Let us go quickly and kill him." 24. "Come on quickly" (he says), "here I am, come up close!" Now he was really a clever man. He had a large number of arms. 25. He had arms up above him, going round him like a rope. "Now" (he says), "I will take you fellows." "Leave us alone; we are all good men." 26. "Don't be angry; now we are afraid of you." 27. "Really? Then you won't be angry with me again?" "No. All right 28. we are satisfied; we are men." "Then you go away south to your own country. You go right to the middle of your country. 29. Where is your country?" "Luru. We will go this way to Wabuna." "All right, then, I will let you go."

Notes.

For general comparison the following literature concerning the Rainbow Serpent in Australia should be consulted:

A. R. Radcliff-Brown, "The Rainbow-Serpent Myth in South-East Australia," *Oceania*, Vol. I, No. 3, p. 342.

Ursula McConnel, "The Rainbow-Serpent in North Queensland," *ibid.*, p. 347.

A. P. Elkin, " The Rainbow-Serpent Myth in North-West Australia," *ibid.*, p. 349.

R. Piddington, " The Water-Serpent in Karadjeri Mythology," *ibid.*, p. 352.

The last two are of importance for comparison with the myth here given, but once again the myth is different from those of Piddington.

1. *jäni maṇu*, " made " the portions of the living world mentioned—a not uncommon ascription. 2. The statement that the Brothers *made* Bulain is very unexpected. If Bulain " made " them-two the verb would be *jäni ma-ṇu-bilin'a*. 3. The description given tallies with that of Dr. Elkin (*op. cit.*, p. 351). 7. The subdivision of creation is also unusual. Piddington's notes, however, suggest that Bulain in Garadjeri thought plays a more elaborated role than elsewhere, and perhaps has combined elements from other sources also. 11. *Gabo*, to fall (of rain) is used also in the Jauor Rainbow-Serpent myth quotes below. The connection with rain is a normal feature of Rainbow Snake stories. The final phrase in 11. *gala jängun'a*, is spoken by some of the men living, and created presumably by Bulain. Going *gul'a* " south " to Baiar appears to put the story into the Northern Tradition. Note the transition to an apparently very slightly related story, as in the case of the Ngurudjawuru Myth (No. IV). 12. *jaga-n-ba-n'i:a*, inland dialect for *jaga-n-ba-n'a-ja*, " we have left," with supplements Nos. C. iii, 5, 1, and first plural inclusive ending, with *-ja* as a plural particle (this is uncommon). 13. *Mälgin jän'i:a* (for *jan'a-ja*) " we have given him the slip," " got away without him." The person ending is added immediately to the stem of the auxiliary. 16. *Walmirimiri* is not mentioned anywhere else in these myths, nor by Piddington. 17. *Jaḍugara* is mentioned by Piddington (*Oceania*, Vol. II, No. 4, p. 382) as the site of the increase centre for *bard'ida*, the native cat. In Dr. Elkin's map it is No. 6, near Cape Villaret, in the north of Karadjeri country, with the starfish of this myth as main totem. It was also given it by a Jaour native as a Jauor horde country with totem *je:la*, dog. The Luru country claimed in 29. by the people here speaking is marked as situated at Gourdon Bay, some distance south of Cape Villaret. 18. *ŋana ŋaba jäni d'ä-n-ba-ṇa*, shows the root *jäni*, make, constructed with any auxiliary different from that used in 1. and 2., viz. *ma-*. It is thus rather " to put " in a place something that one has than to " take " and put what one has not yet. The insistence that Walmirimiri is a " clever man," i.e. medicine man, no doubt, belongs to his association with the Rainbow-Serpent. 24. *Malu babir gin'äŋgagura*, " plenty arms his," is difficult. A marginal diagram that I drew in discussion with my informant at this point shows him to be surrounded by arms, like rays surrounding the sun. This is most unusual, for these culture heroes are normally quite ordinary human beings in shape. 29. *Luru* has already been located above ; of *Wabuna* there is another mention in Text VII. 3.

A Jauor Myth of the Rainbow Serpent and D'äbul'u

The Jauor (sometimes written Yaoru) were a coastal tribe immediately north of the Garadjeri, bounded on their north by the Djugan at Broome itself, and on the east by the Njigina. Very little has been recorded about their mythology, and it is very difficult now to come by. The following two short myths were recorded by me at Beagle Bay Mission from an old Jauor.

The interesting thing about the Jauor is that they are linguistically quite distinct from the Garadjeri. They form the southernmost outpost of the prefixing languages,[13] but

[13] See H. Nekes, " The Pronoun in the Nyol-Nyol (Nyul-Nyul) and Related Dialects," in " Studies in Australian Linguistics," *Oceania Monograph*, No. 3, p. 139.

culturally they have definitely been influenced, like all the Dampier Land tribes, by their southern neighbours. The Rainbow Serpent Myth, however, is more in line with the general form of that story in Australia than is the Garadjeri Myth.

Text A. The Rainbow-Snake

1. *Bugarigara d'uru indiṛan, d'iguru-gun iŋgaden. In'd'inuŋgun.*
In-the-dream-time snake went hollow-tree-in he-lodged. He-cast-skin.
2. *Gin'äŋga imid'älän, n'idi indiṛan banu.* 3. *Gin'äŋga-gun iŋan, wola imbulan*
He awoke, east he-went east. There-at he-stays, rain it-comes
in'd'un, wola gabo in'd'un. 4. *D'uru imin'd'en wola-gun.*
he-makes, rain fall he-makes. Snake water-in.
5. *Wamba indiṛan, gin'äŋga wamba lulgu inaŋgan.* 6. *Gin'äŋga-gun inamilburan,*
Man he-came, that man skin took. There he-cut-off
d'uru-gun d'ud' imid'älän. 7. *Wanaŋari laid' in'd'un gin'äŋgani wamba, baḍali laid'*
snake-on he-bent-it. Stones he-threw that man, axe he
in'd'un lulgu. 8. *Maḍawara-gun iŋan d'uru.*
threw (at) skin. River-in stays snake.

Translation.

1. In the dream time the snake went, he lodged in a hollow tree. He cast his skin. 2. He came out and went eastwards, 3. where he remained, and makes the rain come, causes the rain to fall. 4. The snake lives in the water (rain).

5. A man went, and that man took the skin. 6. He cut it off there, and (?) bent it over the snake. 7. He threw stones and an axe (at) the skin. 8. The snake stays in the river.

Grammar notes are not called for for these texts, as the language type is so different from that of the Garadjeri.

Text B. D'äbul'u

1. *D'äbul'u galiguru inamagoran bugarigara. Jälmban-gab indiṛan.* 2. *Larar,*
Djäbulju bullroarer made in-dream-time. South-from he-came. *Larar,*
garbina, län'd'i jilberin. Walalbiḍi. 3. *Wararan Nal'd'a inamagoran*
shield, boomerang of-old. *Walalbiḍi*-wood. 3. Old-man Naldja made
bul'd'ädi, wanal, inanir wamba. 4. *Banu indiṛan, nuru in'd'alain.*
boomerang, club, he-gave-them men. East he-went thence he-returned.
5. *Wararan d'udarin inaman, Garimba, Bal'd'eri, Banaga, Buroŋ, gala waŋgarid'i*
Old-man sides he put, Garimba, Paldjeri, Panaka, Burong, then they-will-be
d'ardaṛa gad'a. 6. *D'äbul'u d'älŋga inan järir.*
complete. Djäbulju increase-sites he-gave-us.

Translation.

1. Djäbulju made the bull-roarer in the dream time. He came from the south. 2. (The same person made) the *larar*, the boomerang of old from *walalbiḍi*-wood. 3. An old man (named) Naldja made the *buldjädi*-boomerang and the club and gave them to men. 4. He

came from the east and went back that way. 5. The old man established the sections, Garimba, Baldjeri, Banaga and Burong, and they will be complete altogether. 6. It was Djäbulju who gave us increase sites.

Notes.

This brief text is worthy of some annotations apart from linguistic matter. There is no mention of Djäbulju or Naldja elsewhere; they are local names. *D'äbul'* in Nyul-Nyul means "grey-haired." The bullroarer is called *galiguru*, as in Garadjeri, and further north the Njul-Njul call it *galigur*, as also do the Ba:d. Its importation from the south is suggested by the words *jälmbangab indiṛan*, "he came from the south." The *larar* is a small pointed stick used in corroborees; *garbina* is the heavier shield, as in Garadjeri and along the Fitzroy as far east as Djäru country. The *län'd'i* was explained as *gaḷi*, "boomerang," and the *bul'd'ädi* was given the same explanation. *Jilberin* is Garadjeri *julbur*, Njigina *jilburin*, almost synonymous with *bugari*. *Dudinar inaman*, "he made a law." The concluding phrase of the note about the marriage sections, *gala . . . gad'a* really means "and that is why they will always be kept intact"; *d'ardaṛa*, as in Garadjeri, means "complete"; see Text VII, 4. The word *d'älŋga* may be magic in general; see a note by Dr. Elkin, "Studies in Australian Totemism," *Oceania Monograph*, No. 2, p. 58, for the Njul-Njul use of the word, and *ibid.*, p. 49, on the Djugan use (footnote 5). But in Jauor the word is used also for increase centres, and that seems to be the meaning here: "Grey-hair gave us totem centres." For these, see A. P. Elkin, *ibid.*, pp. 40-41.

Farther north in Dampier Land the Njul-Njul, who speak a language of the same group as Jauor, have a short Moon-myth which is worth comparing with Text IX in the Garadjeri series.

Text C. Njul-Njul Moon Myth

1. *Gun'ul in'd'idan galamb, iŋalandan warad' bor.* 2. *Gin'iŋguŋg in'd'idan banawar*
Moon went he stayed one place. Thence he-went east
walg gobidig bor. 3. *Walg iŋinaŋg gin'iŋg bor aliribor walg.* 4. *In'an*
sun place. Sun had that place first sun. He-took
malerid'in walg gun'ul. 5. *Gin'iŋguŋg wai in'd'idan banawar. Iŋalandan*
his-wife sun moon. Thence away he-went east. He stayed
Balmaniŋgar. 6. *Gin'iŋguŋg bilei in'd'idan banawar, Miliwindi (iŋalandan).*
(at) Balmaningar. Thence again he-went east (at) Miliwindi (he stayed).

Translation.

The moon went along and stayed at one place. Thence he went east to the sun's place. The sun had that place first but the Moon stole the sun's wife. Thence he went away eastwards. He stayed at Balmaningar. Thence he went still farther east (and stayed) at Miliwindi.

Notes.

This myth is more in the Njigina style, involving a series of journeys from place to place without recorded events. It carries the journey farther than the Garadjeri would know,

for Miliwindi is in the King Leopold Ranges, in Bunaba country, the scene of important cave paintings.

Apart from the linguistic interest of the texts themselves, several points of value emerge from the preceding pages. The scope of the horde countries mentioned, i.e. the distribution of the myths and the parallel series of traditions are both important, and no less so are the limitations of the myths and wanderings recorded.

First of all, the stories of the two Brothers have a special interest, in that they really do seem to be importations into Garadjeri mythology, and that from a definite and traceable source. Dr. Piddington, after detailing the Southern Tradition, in which two others, the Brothers Bagadjimbiri, are the heroes, adds : " In addition to the Bagadjimbiri there are two other culture heroes belonging to the southern tradition, namely Kunbarangor and Kagamaraing. The Karadjeri, however, know only scraps of this tradition, which is said to belong to the De Grey River. The most important feature of the mythology of these two heroes is the legend which tells how they established the anomalous marriage section in the De Grey region as follows : Kunbarangor and Kagamaraing belonged to the Paldjeri and Karimba sections respectively ; about thirty miles south of Anna Plains Station they met a woman called Tabuga of the Panaka section, with whom they had sexual intercourse. In this way they established the anomalies of the second organization."[14] In the texts here given these other two heroes hold the centre of the stage. They do definitely seem to be, and they actually claim that they are, Njangumada (Text V, 35). Yet the stories were told by a man of Migiga horde country, to whom, apparently they were Garadjeri property. At the same time—and this is a point of great interest, as showing the acclimatization of the myths—the marriage sections as established by them among the Garadjeri are the regular Garadjeri system, not the anomalous De Grey River type (see Text III). It is also possible that some of the marks of the Bagadjimbiri stories have been added to these others, for example, their living in the Magellanic Clouds.

The Northern Tradition, however, is represented also in the stories of Ngurudjawuru (spelled by Dr. Piddington, *op. cit.*, p. 53, Ngudjowur). These tales also were narrated by the same native as the others : thus the traditions definitely do overlap. What is presented, then, is not a group of two traditions, but two traditions mixed with one another, with a third, at root Njangumada, working its way into these. This last series may extend farther south ; no study has been attempted along these lines. The reason for the anomalous assignment of Ngurudjawuru to the Paldjeri section (Text IV), while the porpoise increase rite belongs to the Karimba-Burong pair of sections does not appear. Even if the two Guridi be taken as the initiators of the rite, the matter remains the same. The Jauor myth assigns increase rites as a whole to Djäbulju, whose name simply means " grey-haired," i.e. " old man."

The limitations of the wanderings of the culture heroes are obvious from a glance at the map. They are always more or less easily within reach of Migiga, the narrator's horde-country, and this suggests that Garadjeri myths, like those of Central Australian tribes, are horde property before even belonging to one or other tradition. Possibly the dichotomy of dialects amongst the Garadjeri belongs here also. Piddington (*op. cit.*, p. 51) mentions this dichotomy and says that the southern tradition assigns it to the Bagadjimbiri Brothers.

[14] See " Karadjeri Initiation," *Oceania*, Vol. III, p. 51.

The actual names Nadja and Nangu have been explained in the grammar notes in this paper; they are relative to the speaker's own locality, not actual dialect names. This difference of dialect is not very serious; in general the inland forms approach those of Mangala, as might be expected, and thence possibly in the direction of the Luridja-speaking tribes. They definitely do not extend eastward: the Wolmeri, Jülbre and neighbouring tribes show increasing departures from a Garadjeri type of language.[16]

Where coastal forms differ they have a tendency to be shared with languages south-west of Garadjeri, almost as far as New Norcia,[17] so far as the meagre information available in these languages goes to show.

There is still opportunity for further study in this region, and some of the points which remain to be cleared up have been shown in the foregoing paper.

A. CAPELL.

OBITUARY

MR. W. J. ENRIGHT, B.A.

With the death of Mr. W. J. Enright, B.A., Solicitor, of West Maitland and Dungog, science in Australia has lost one of its staunch supporters, and what is even more important, many scientists have lost a very sincere friend and helper. In addition Anthropology in New South Wales mourns the passing of one who made many useful contributions, particularly with regard to the Aborigines of the Port Stephens district, whom he had known since his boyhood.

After finishing at school, Mr. Enright was educated at the University of Sydney, living during his undergraduate days at St. John's College. His B.A. work included French, Geology and Latin, and in 1893 he graduated with honours in Geology. He also attended lectures in Physics and Chemistry, which at the time were regarded as somewhat new-fangled sciences in the University. He was particularly interested in French and in Geology. He kept his French up by membership of the Maitland French Circle as long as it lasted. In addition he acquired a working knowledge of German and Italian and had some knowledge of Spanish.

His association with Geology, which was begun when he was a student under Professor David, was maintained throughout his life. All geologists, and particularly those who had been students of the Professor, were sure of his friendship and help in their work in the Hunter River region. He got to know Professor David well during the latter's preliminary surveys of the Maitland coalfields and through very many evenings spent around the home fire at night.

His interests were very wide. He was a member of the Royal Society of New South Wales, the Linnean Society, the Royal Geographical Society, the Geographical Society of New South Wales, the Royal Australian Ornithologists' Union, the Numismatic Society,

[16] A. Capell, "The Classification of Languages in North and North-West Australia," *Oceania*, Vol. X, No. 4, p. 404.

[17] Bishop Salvado gave a vocabulary of New Norcia language (472 words) and one he called "north," i.e. a little north of New Norcia, his headquarters. The latter shows grammatical forms answering to those of Garadjeri; the former is Yungar, of a different type. Unfortunately there are no grammar notes apart from the word list. See R. Salvado, *Memorie Storiche dell'Australia*, 1851.

the Royal Australian Historical Society and the Australian and New Zealand Association for the Advancement of Science. The journals and proceedings of all these bodies brought him much material which he could appreciate and which he carefully read, for he took a keen interest in the history of his country and in its total environment—physical, cultural and religious.

He was closely associated with the organization of the Second Pan-Pacific Science Congress held in Australia in 1923. He contributed towards the booklet dealing with New South Wales which was presented to the members of that Congress, and made the local arrangements for the group of scientists who visited the Maitland district.

His interest in Anthropology goes back over fifty years, an interest which was stirred not only by his early association with the Aborigines but in a more systematic way by the late R. H. Mathews, who did so much to glean and record what could still be obtained about the Aborigines of New South Wales. Mr. Enright endeavoured to carry on this work for the Port Stephens and neighbouring districts. My own close association began with him through this interest. I lived in Morpeth in the early 1930's. One day Mr. Enright called on me to say that he felt he had gone as far as he could with the study of the Port Stephens Aborigines and that he could see before him problems of social organization and totemism which required an approach and a knowledge which he had not had the opportunity of acquiring. Would I go with him and take over this part of his task ? From that started many journeys, sometimes in his car, sometimes in mine, up to Port Stephens, to Taree, to Kempsey and to Bellbrook. He would introduce me to these Aborigines, mostly mixed-bloods, who knew and trusted him, and then would go on with inquiries regarding tree carvings and so on, while I did my best in the sphere of social organization, totemism and ritual. Thanks to his introduction, I have obtained quite a useful body of knowledge regarding this region. In addition I gained a most valuable friendship and a respect for his keenness, sincerity and devotion. Amongst other subjects which he studied was the comparative study of ritual, concerning which we had many a long talk as we drove along. Another striking fact was his remarkable physical energy almost to the end.

His contributions to Anthropology were mostly in the form of notes, but were quite worthwhile ; but beyond all this was, first of all, the great help which he gave to myself and others in this sphere, including the Anthropological Department of the Australian Museum, Sydney, similar to the unstinted help which he gave to geologists and botanists in their spheres ; and secondly, the real friendship which all of us felt for him when we came to know him. This latter was a simple matter as long as we were interested in our subject and were sincere in our search for facts and their interpretation. He loved righteousness, and was not ashamed of his faith.

Walter Enright had a long life, a life in which he was successful in his profession as a solicitor, and a life in which over and above that he was successful in making friends and in advancing the cause of Science in Australia.

The following list of his written contributions in Anthropology alone will give some idea of what he managed to do in his spare time :

MANKIND—

March, 1932 : " The Kattang or Worimi : An Aboriginal Tribe," pp. 75-77.

August, 1932 : " Social Divisions of the Birripai," p. 102.

December, 1932: "A Dilly Bag from the North Coast," pp. 137-138.
August, 1933: "Further Notes on the Worimi," pp. 161-162.
October, 1934: "Aboriginal Rock Paintings at Wollombi," pp. 234-235.
"Notes on Kumbangerai," pp. 239-240.
December, 1935: "Distribution of Merewether Chert," p. 8.
"An Aboriginal Fish Trap," pp. 8-9.
"Aboriginal Place Names," p. 23.
April, 1936: "More Recollections. Mary Gilmore." (Review), pp. 21-22.
"Aboriginal Axe Factory," p. 23.
June, 1937: "Notes on the Aborigines of the North Coast of New South Wales," pp. 88-91.
September, 1939: "Notes on the Aborigines of the North Coast of New South Wales," pp. 193-195.
October, 1940: "Notes on the Aborigines of the North Coast of New South Wales," pp. 321-324.
July, 1946: "Notes on the Aborigines of the North Coast of New South Wales," pp. 264-265.

Oceania—
Vol. X, No. 2, 1939: "Aboriginal Cave Paintings," pp. 166-170.

Report and Proceedings of the Australasian Association for the Advancement of Science—
Vol. VI (1895): "Rock Paintings and Carvings of the Aborigines of New South Wales." (With R. H. Mathews.) Pp. 624-637.

Journal of the Royal Society of New South Wales—
Vol. XXXIII (1899): "The Initiation Ceremonies of the Aborigines of Port Stephens," pp. 115-124.
Vol. XXXIV (1900): "The Language, Weapons and Manufactures of the Aborigines of Port Stephens, N.S.W.", pp. 103-117.

Proceedings of the Pan-Pacific Science Congress (Australia), 1923—
"Notes on Aboriginal Tribes on North Coast of New South Wales," pp. 267-268.
"Notes on Aboriginal Stone Axe Discovered in West Maitland, New South Wales," pp. 269-270.
"Aborigines of North-East New South Wales," in Guide-book to the Excursion to the Hunter River District, pp. 3-4; also "Botany of the Lower Hunter River District," *op. cit.*, p. 5.

A. P. Elkin.

Mr. HAROLD J. WRIGHT, A.M.I.E.(Aust.)

The late Mr. H. J. Wright died on Friday, May 6, 1949, in his seventieth year. He was associated with the electrical engineering industry of this State for the whole of his working life, and at the time of his death he was General Works Manager of the Australian General Electric Company Pty. Ltd. His varied private interests included membership of the New South Wales Astronomical Society, the Royal Australian Historical Society, and the Parramatta Rotary Club. He was a foundation member of this Society, a councillor from 1931 to 1934, and from 1937 to 1944, during which he was President for the year 1939-1940 and

Vice-President from 1941 to 1943. For the past thirty years he collected Aboriginal stone implements in New South Wales and Victoria, the techniques of manufacture of which interested him greatly. He generously presented 1,600 specimens from his collection to the Australian Museum in recent years. Many of our members will remember his kindness and sincerity, his unfailing willingness to help whatever the request, and his courteous geniality on excursions. They will all feel very intimately, as I do, the loss of a true friend.

F. D. McCarthy.

REVIEWS

Stone Age Craftsmen: Stone Tools and Camping Places of the Australian Aborigines. *By S. R. Mitchell. Tait Book Co. Pty. Ltd., Melbourne,* 1949. 211 *pp.*, 16 *pls.*, 45 *text-figures.* 27/-.

This well-produced book is divided into two parts, the first of which deals with the origin of the Australian Aborigines and the classification, techniques, uses, materials and patination of their stone implements. The second part describes the camp-sites visited by the author. Mr. Mitchell has made a life-time study of our stone implements, and great credit is due to him for the amount of time, effort and money he has spent in accumulating his magnificent collection, and also for this synthesis of his knowledge and ideas about the subject. The chapters on the rocks used for making implements, patination, and the analyses of his camp-site collections are valuable contributions, as are the beautiful line drawings of Miss Walsh. Valuable, too, are the numerous observations on the geology and topography of the camp-site areas. This book, in the main, is a description of the implements in the author's collection and the sites on which they were collected, and as such it serves a useful purpose because he has visited many out-of-the-way places.

The book perpetuates what I believe to be fundamentally wrong conceptions about Australian stone implements, and for this reason my praise must be tempered by criticism. The author has attempted to fit the available facts to the hypothesis that material wields a dominating influence in the production of all types, techniques and forms of Australian implements—an hypothesis espoused by the late A. S. Kenyon and Sir W. Baldwin Spencer. With it goes the assumption that specialized implements like the *pirri*, *tula*, Kimberley biface points, geometrical microliths and others are purely local developments. Mitchell believes (p. 5), too, that all Australian implements form one industry which was in use right up to the time of white occupation, despite the stratification of cultures revealed in the Devon Downs and the Lapstone Creek rock-shelters. It is an approach which denies the factual evidence presented by distributions and excavations, and it opposes the accepted theory of the cultural development of techniques and types since man made implements. The author has, in my opinion, made a fundamental error in perpetuating this interpretation of our lithic culture in this work, and my detailed criticism of it, published in a recent issue of *Oceania* (XIX, No. 4, 1949), need not be repeated here.

The classification is said on p. 4 not to be exhaustive, but on p. 27 it is proposed for general adoption, even though it ignores important techniques and deals with only a small number of the implement types found in Australia. It introduces, amongst other terms, two-side instead of the universally used double-side scraper. Then, in the classification of the Mooney axes (p. 163) length, weight and shape are considered but technique is not

mentioned. It is a classification based on the out-of-date one of Kenyon and Stirling published in 1901, with its cumbersome system of letters and numbers, and it is unfortunate that it has been used in this book when a generally accepted modern classification is now in use in Australia.

The somewhat superficial treatment of technique and core characters in Chapter III is accompanied by idealistic diagrams in Fig. 20 which do not give a true picture of what actually happens in knapping. For example, a blow struck in the B position frequently produces a flake of A1 type (as with *Leilira* blades) and also of C1 type (as with *Elouera* adze-flakes), and a blow struck in the C position often produces a blade of A1 type (as with *Leilira* blades). The whole of the points shown in Fig. 24 belong to the Bondi series, those figured as *Woakwine*-type being oblique-trimmed blades lacking the butt trimming of the *Woakwine*-type, whilst the *Adelaide*-type is a uni-marginal point associated with the *pirri* and is not a south-eastern type.

F. D. McCarthy.

The Armytage Collection of Maori Jade. *By K. Athol Webster. Photography by John Queenborough, A.R.P.S. The Cable Press, 62 Doughty Street, London,* 1948. 35 *blocks with descriptive captions. Price* 10/6, *post free.*

Mr. Webster's booklet illustrates by means of 35 admirably clear half-tone blocks with full descriptive letterpress the 85 *hei tiki* and other nephrite amulets and artifacts of a remarkable collection gathered by a British collector and, after the latter's death in 1946, steered back to New Zealand by the shrewdness and enterprise of the author. The author (a New Zealand collector resident in London) and his British collaborator also deserve to be congratulated on their enterprise in publishing at their own risk and expense this useful contribution to the story of Maori ethnography. No comparable illustrated monograph on that perennially fascinating collector's piece, the Maori *hei tiki*, has yet been issued.

Roger Duff.

CORRESPONDENCE, NOTES AND NEWS:

A Cape York Legend.

Sir:

I send you the following legend in the hope that it may be of interest to some of your readers.

"On an island some ten miles off the mainland of Cape York Peninsula dwelt a small group of Aborigines.

"An epidemic of some sort visited the island years ago and killed most of its inhabitants, leaving alive only a few old gins and two sisters aged about 15 and 19 years.

"The old gins took a very pessimistic view of the future of the tribe and decided to send the two girls over to the mainland to secure mates. So the two girls were sent off and the elder one was provided with a stone, to which was attached a piece of string about 60 feet long, made out of the bark of a species of stringy bark that grew on the island. When they had waded into the sea and the water became too deep to walk further, the elder girl would throw the stone ahead, holding the other end of the string. As the stone struck the water, and sinking would bring the string into contact with the water, it would part and roll back on each side, enabling the girls to walk along the bed of the ocean. This method of travel eventually brought them to the mainland, where they soon met a young man from one

of the mainland tribes who took the elder girl as his wife. The three of them lived and hunted together for some time, the man being careful not to contact his own tribe.

" As time passed the young blackfellow began to pay too much attention to his wife's sister. His wife then decided to take the younger girl home to their island.

" Firstly they caught a number of fish and after feasting lay down to sleep.

" The elder girl woke, and seeing her husband very soundly asleep called her sister, and together they set off for their island, using the same method of parting the waters with the string and stone as they had done on their journey from the island previously.

" The young man woke up and saw the two girls going into the sea. He rushed after them, and when the water became too deep he began to swim, but the sea, rushing together again behind the girls as they went along, prevented him from reaching them, and he was eventually drowned.

" The girls returned to the island safely."

R. G. LETHBRIDGE.

Taldora Station,
Julia Creek.

A Bathurst Island Initiation Rite.

Sir :

Not many white men can have had the experience of being tried by a native court. The following story may therefore be of interest.

I had visited a native camp in northern Bathurst Island in March 1913, and had made the acquaintance of an adolescent native boy called Cooper. He was smeared from head to foot with red ochre and wore a collar made of a thin piece of wood bent round his neck with the ends tied together with hair string behind with a strand of string about six inches long hanging down his back terminating in a blob of gum. He was in the *kolloponiati* stage of initiation grade and was forbidden in the camp. One day in great secrecy he showed me some bark arm bracelets known as *tuguti*. A month later I was on a Malay lugger in the same region and some natives came out to the lugger in canoes. They told me that Cooper was to take the ceremony for his next degree that afternoon. I persuaded the master of the lugger to put me ashore on Papiau beach, opposite old Fort Dundas. The natives were unwilling to take me with them at first, but finally consented. We walked inland for about four miles and met the main group, all painted for the ceremony. Cooper was said to be out in the mangroves, but came in shortly after about midday. He then went out again for a sugar bag. Having learned a few words of the language I attempted conversation. After a time I attempted to ask something about Cooper's *tuguti*. Immediately the cheerful group about me hushed and everyone seemed very concerned. They had gained the impression that I had stolen the *tuguti*. I tried to explain that I had only looked at them. About twenty of the men seated themselves in a circle and proceeded to discuss the problem. I overheard a few recognizable words at times, *ardjidit waitamanna*, no good white men, *paltoa*, dead, *yergobai*, alligator. I was sitting meanwhile with my back to a pandanus facing a salt water inlet. An emissary from the circle visited me from time to time and questioned me anxiously about what I had done with the *tuguti*. One humourist came over several times, tapped me on the shoulder, and grinningly pointed to the water, saying *yergobai*. Suddenly the discussion stopped, everybody stood up, and cordial relations were resumed as if nothing had happened.

Cooper returned about 4 p.m. He washed and was smeared all over with red ochre except the upper part of the face. Mean-

while a small trestle had been built of three upright sticks about 2 ft. 6 in. high in the form of an isosceles triangle, with the apex to the west. Cross sticks were laid across the top of this and the sticks covered with grass. Three old men then took Cooper to a point about twenty yards east of the trestle and faced towards it, two on his right, one on his left. They each held a flat bladed club, *irruella*, in the left hand horizontally above the head and beat the point of it with a light round club with a pointed end, *merkunga*. Cooper held three *merkunga* in the crook of his left arm, one being taken and used by one of the old men. The old men advanced towards the trestle, chanting and beating their clubs in the way described. Cooper was slightly behind them. Young men followed the group. Cooper stood before the trestle as at an altar while the old men chanted for about five minutes. Water was called for, and brought by a woman and given to a visitor from the Mugula tribe. He then poured the water over Cooper's head. Cooper rubbed his belly with his *merkunga*. The visitor then pulled the hair string free from one end of the wooden collar, *eladini*, while Cooper made very wry faces. The collar was removed and the ceremony ended. I was presented with Cooper's *eladini* and *merkunga* in return for gifts, and I was cheerfully escorted back to the beach where the lugger was waiting for me.

H. K. Fry,
D.S.O., B.Sc., M.D.

Aboriginal Net Making.

Sir:

Herewith are extracts from a letter by F. C. Thompson of Chinchilla, Queensland, who spent nearly fifty years on stations in the vicinity of the lower Cooper River and was always interested in the life of the Aborigines.

"The plant is a kind of flax. I forget its native name. According to the Government Botanist it might be *Psoralea badocana*.

"It grows on the Diamantina from Monkira to the Bluff. It favours areas which do not flood more than 12 or 18 inches. It never grows in thick masses—just a stalk here and there. One or two stalks to 10 or 20 square yards. Much only reaches a height of two or three feet. The best grows straight, four or five feet high, as thick as a man's thumb. It grows best on the southern end of Monkira Station, almost on the boundary of Durrie, at the lower end of Wantabba Waterhole, adjacent to Kadingerra Hole.

"The blacks gather there before the crop is ripe. Plenty of duck eggs in the lignum, fish in the hole. The camp is always on Wantabba. Kadingerra is not favoured because the spirits of dead blacks live there, ready for rebirth. The gins bogie there on the off chance of absorbing the spirit of some child or mate who has gone before.

"When the plants bloom they are pulled up, tied in bundles and placed in the channels in Wantabba. The bundles are taken out of the water after two or three days, covered with grass and sand to sweat them, and get afurther wetting before stripping commences. It is half dried, beaten with yam sticks till almost dry, and submerged and beaten again. Then the yam sticks are thrown away and the licking done by finger nails. It peels from end to end of the plant. The fibre is kept on the move till dry, passed through the hands like washing clothes till free of all matter, and about three parts teased. All the work so far has been done by gins. The older gins specialize in the teasing.

"When thoroughly dry an *old* boy, or an *old* gin, runs it out while sitting down with one leg stretched in front. The fibre is twisted by rubbing with the hand on the

thigh. The twisted cord is taken by gins, run to any length, rolled in a ball as she takes it.

" It is taken from the weaver, passed through one of three holes in a piece of stick. The other two strands each go in their holes. A renegade white man known as Coogera Jack is supposed to have introduced modern methods of twisting. Previous to his advent all twisting was done on the thigh with the hand. Coogera, when he died, was buried by the blacks as one of themselves. His grave is two or three miles out from Narabala Waterhole.

" After the three strands have been twisted in their separate holes the lot are tied together and twisted in the *reverse* direction to complete the rope. With very slight variations it is exactly similar to a white stockman making a twisted greenhide rope. Perhaps modern ropemakers, with the aid of machinery, follow the same principle.

" The twisting is black*boys'* work. Gins make good ropes, but it is not etiquette to allow them to do so.

" After the final twisting they are passed through a light flame of fire to singe off any loose ends. The better ropes are used for fishing lines with bone hooks ; the other is used for making nets. Those for trapping ducks and flock pigeons have not the belly in them which are given those for fishing.

" The net-making needle, gauge stick, methods employed are exactly similar to those of net-making among fishermen—white fishermen. The knots are the same. The blacks' needle is made of bone, possibly the thigh of some deceased enemy or friend. They are as quick in their net-making as any white man. (Personally, having made nets, seen others do it, I'd say a gin, with her nimble fingers, could give me a start and a beating.)

" The nets were eight or nine feet deep and 30 to 50 to 60 yards long. A particular stick, thin and supple, is threaded through the ends of the net to keep them in shape. This is a stick from one grove, and one only, of mallee scrub about a quarter of a mile long and three or four chains wide on Miranda Station, about two-thirds of a mile from the South Australian border, and about 90 miles east of Birdsville. Those sticks are very valuable.

" The nets are tanned in bastard willow bark. As they had no means of boiling water prior to the white man, I don't know how they did it. Now they cadge an empty tin, boil the bark, immerse the nets and soak them. Then they are traded to all parts of the globe which the blacks know—a few hundred miles each side of them.

. . . .

" The dilly bags are made with a hooked stick like a crochet needle. They work round and round till they get the size, using lengths of ochre coloured ' string ' to colour the bag to their liking. When big enough, big ones to 2 ft. 6 in. or 3 ft., they double over like doubling a bit of tin for a whistle and sew the two ends up one-third of the way and leave the middle open. They run a wooden skewer through the opening for a fastener. Smaller, fancy ' hand bags ' are made the same way with finger string and a nicely worked piece of 'roo leg bone worked thin enough for a skewer. If these are used to bag for barter, the parcel is sown."

H. G. LAMOND.

Annerley, Q.

Anthropological Society of N.S.W.: Financial Position, 1949.

Sir :

I have examined the cash books and vouchers of the Anthropological Society of N.S.W. for the period commencing 1st October, 1948, and ending 30th September, 1949, and certify that the following State-

ment of Income and Expenditure is correctly compiled therefrom and that in my opinion the accompanying Statement of Assets and Liabilities fairly sets out the position of the Society at the concluding date.

The valuation of the stock on hand of MANKIND, as vouched for by the Honorary Secretary, has been accepted by me.

D. R. WYLIE,
Chartered Accountant (Aust.).

THE ANTHROPOLOGICAL SOCIETY OF NEW SOUTH WALES.

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30TH SEPTEMBER, 1949.

EXPENDITURE.	£ s. d.	£ s. d.
To Printing and Stationery	3 17 0	
,, Postage	9 13 7	
,, Insurance	0 5 0	
,, Exchange	0 7 11	
,, Sundries	2 2 0	
,, Cost of Printing MANKIND, *less* Contributions from Victoria, South Australia and Queensland Societies	111 0 4	
		127 5 10
,, Excess of Income over Expenditure		83 13 7
		£210 19 5

INCOME.	£ s. d.
By Subscriptions	86 16 9
,, Bank Interest	1 9 4
,, Sales of Journal MANKIND	20 0 4
,, Donations	2 13 0
,, Government Grant	100 0 0
	£210 19 5

BALANCE SHEET AS AT 30TH SEPTEMBER, 1949.

LIABILITIES.	£ s. d.	£ s. d.
Society Funds—		
Balance as at 1st October, 1948 ..	293 16 8	
Less Decrease Stocks of MANKIND ..	8 9 7	
	285 7 1	
Add Excess of Income over Expenditure for Year ended 30th September, 1948	83 13 7	
	369 0 8	
Sundry Liability—Reimbursement of Petty Cash	0 7 11	
	£369 8 7	

ASSETS.	£ s. d.
Stocks on Hand—MANKIND	135 6 5
Library	50 0 0
Commonwealth Savings Bank	184 2 2
	£369 8 7

The Anthropological Society of Victoria

(Founded 1932)

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Meetings are held in the Anatomy Lecture Theatre (rear entrance), University of Melbourne on Wednesday evenings as advertised, at 8 p.m., at regular intervals. Annual subscription (including free supply of MANKIND), 10/-.

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OBJECTS.

(*a*) To promote the science of Anthropology.
(*b*) To hold biennial conferences of delegates from affiliated societies to deal with matters affecting affiliated societies generally, or the science of anthropology.
(*c*) To take public and official action in the interests of anthropology, as may be deemed desirable.
(*d*) To encourage affiliated societies to co-operate in every possible way.

The Anthropological Society of N.S.W. as such is not responsible for any opinion or declaration published in this magazine, by whomsoever expressed, unless specifically stated to be so by the Editor.

All communications, MSS., and proposed advertisements to be addressed to Mr. F. L. S. Bell, M.A., Editor, City of Sydney Public Library, George Street, Sydney.

Persons interested in the work of the Society please address correspondence to the Hon. Secretary.